

Experiment Number 1: Analysis of different basic Parameters to solve power flow and power operation techniques.

Assessment Rubrics of Power System Operation and Control

Performance parameter	Meets Expectations (100-80%)	Average performance (80-40%)	Does not meet expectations. (40-0%)	Obtained Marks		
				2019	EE	373 381 383
Lab Performance (CLO1) (2)	Selects appropriate mathematical tool to solve power system problem, carefully selection of simulation tools and solving techniques to performs simulation Accurately.	Needs guidance to select appropriate mathematical tool to solve power system, simulation performance required guidance and contain minor errors.	Have no idea about proper mathematical solving methods and simulation techniques.			
Lab Manual (CLO 1) (2)	Submit the lab report (including tables, simulation procedure, observations/ graphs, summary) on due time.	Submit the complete report (including code, procedure, simulation, observations/ graphs) manual after due time and having some minor errors.	Submit the incomplete lab manual after due time and having major errors in results and conclusion.			

Experiment Number 2: Implementation of Gauss-Siedle Method for multivariable power system

Assessment Rubrics of Power System Operation and Control

Performance parameter	Meets Expectations (100-80%)	Average performance (80-40%)	Does not meet expectations (40-0%)	Obtained Marks		
				2019	EE	373 381 383
Lab Performance (CLO1) (1.5)	Selects appropriate mathematical tool to solve power system problem, carefully selection of simulation tools and solving techniques to performs simulation Accurately.	Needs guidance to select appropriate mathematical tool to solve power system, simulation performance required guidance and contain minor errors.	Have no idea about proper mathematical solving methods and simulation techniques.			
Affective participation within group (CLO3) (0.5)	Affective participation in the lab with collaborative involvement to complete lab tasks.	Moderate participation in group to complete lab tasks.	Low level participation in group discussion and Act of irresponsibility was observed.			
Lab Manual (CLO 1) (2)	Submit the lab report (including tables, simulation procedure, observations/ graphs, summary) on due time.	Submit the complete report (including code, procedure, simulation, observations/ graphs) manual after due time and having some minor errors.	Submit the incomplete lab manual after due time and having major errors in results and conclusion.			

Assessment Rubrics of Affective Participation

Observed Lifelong learning Skills	Description	Obtained Marks		
		2019	EE	373 381 383
Coordination with others (0.2)	Affectively coordinate with students to complete lab task and project.			
Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 3: Analysis of multivariable power system using Newton Raphson Method

Assessment Rubrics of Power System Operation and Control

Performance parameter	Meets Expectations (100-80%)	Average performance (80-40%)	Does not meet expectations (40-0%)	Obtained Marks		
				2019	EE	373 381 383
Lab Performance (CLO1) (1.5)	Selects appropriate mathematical tool to solve power system problem, carefully selection of simulation tools and solving techniques to performs simulation Accurately.	Needs guidance to select appropriate mathematical tool to solve power system, simulation performance required guidance and contain minor errors.	Have no idea about proper mathematical solving methods and simulation techniques.			
Affective participation within group (CLO3) (0.5)	Affective participation in the lab with collaborative involvement to complete lab tasks.	Moderate participation in group to complete lab tasks.	Low level participation in group discussion and Act of irresponsibility was observed.			
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Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 4: Analysis of multivariable power system using Fast Decoupled Method

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				2019	EE	373 381 383
Lab Performance (CLO1) (1.5)	Selects appropriate mathematical tool to solve power system problem, carefully selection of simulation tools and solving techniques to performs simulation Accurately.	Needs guidance to select appropriate mathematical tool to solve power system, simulation performance required guidance and contain minor errors.	Have no idea about proper mathematical solving methods and simulation techniques.			
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		2019	EE	373 381 383
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Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 5: Perform Economic Dispatch operation of Generators in Power System

Assessment Rubrics of Power System Operation and Control

Performance parameter	Meets Expectations (100-80%)	Average performance (80-40%)	Does not meet expectations (40-0%)	Obtained Marks		
				2019	EE	373 381 383
Lab Performance (CLO1) (1.5)	Selects appropriate mathematical tool to solve power system problem, carefully selection of simulation tools and solving techniques to performs simulation Accurately.	Needs guidance to select appropriate mathematical tool to solve power system, simulation performance required guidance and contain minor errors.	Have no idea about proper mathematical solving methods and simulation techniques.			
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Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 6: Perform tap-changing in transformers to analyse voltage regularity in power system.

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Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 7: Perform Unit Commitment operation for selection of Generators by Dynamic Programming

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Performance parameter	Meets Expectations (100-80%)	Average performance (80-40%)	Does not meet expectations (40-0%)	Obtained Marks		
				2019	EE	373 381 383
Lab Performance (CLO1) (1.5)	Selects appropriate mathematical tool to solve power system problem, carefully selection of simulation tools and solving techniques to performs simulation Accurately.	Needs guidance to select appropriate mathematical tool to solve power system, simulation performance required guidance and contain minor errors.	Have no idea about proper mathematical solving methods and simulation techniques.			
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Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 8: Perform control operation of generator to extract generator reactive capability curves and power compensation.

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Performance parameter	Meets Expectations (100-80%)	Average performance (80-40%)	Does not meet expectations (40-0%)	Obtained Marks		
				2019	EE	373 381 383
Lab Performance (CLO2) (1.5)	Selects appropriate mathematical tool to solve power system problem, carefully selection of simulation tools and solving techniques to performs simulation Accurately.	Needs guidance to select appropriate mathematical tool to solve power system, simulation performance required guidance and contain minor errors.	Have no idea about proper mathematical solving methods and simulation techniques.			
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Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 9: Perform reduction of Buses in main power system to reduce system for understanding and calculation.

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Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
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Total (0.5)				

Experiment Number 10: Perform transient stability analysis of generators for calculating the critical angle.

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Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 11: Perform Load frequency control of generator using PI controller.

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Total (0.5)				

Experiment Number 12: Perform Numerical solution of non-linear equations in power system stability by Euler's Method

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Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				

Experiment Number 13: Perform steady state analysis and stability analysis of synchronous Machine.

Assessment Rubrics of Power System Operation and Control

Performance parameter	Meets Expectations (100-80%)	Average performance (80-40%)	Does not meet expectations (40-0%)	Obtained Marks		
				2019	EE	373 381 383
Lab Performance (CLO2) (1.5)	Selects appropriate mathematical tool to solve power system problem, carefully selection of simulation tools and solving techniques to performs simulation Accurately.	Needs guidance to select appropriate mathematical tool to solve power system, simulation performance required guidance and contain minor errors.	Have no idea about proper mathematical solving methods and simulation techniques.			
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Collaborative work effort (0.2)	Active involvement and collaboration of students to complete task within lab and project.			
Sense of Responsibility (0.1)	Act of irresponsibility was observed from the student, while performing any lab or project task within groups.			
Total (0.5)				