Lesson Plan No. 1	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Investigate the effect of faults of electrical system b. Analyse the various categories of faults
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by fault? Why faults are not acceptable in a healthy electrical system? 2. **Development** (30 minutes) a. Introduction to faults b. Various types of 3 phase faults **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://www.youtube.com/watch?v=24X4znh4nl0&pp=ygUcU3ltbWV0cmljYWwgQ29tcG9uZW50cyBucHRlbA%3D%3D Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 2	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Differentiate the single current component into three sequence components b. Understand the formation of sequence network.
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions How to access the severity of the fault? What do you mean by the term "Fault Current"? 2. **Development** (30 minutes) a. Sequence Components b. Significance of operator "a" c. Sequence Networks **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture Video Link Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 3	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Articulate the concept of Unsymmetrical faults b. Analyse the effects of Unsymmetrical faults on Power System
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by Unsymmetrical fault? How often a Unsymmetrical fault can occur? 2. **Development** (30 minutes) a. UnSymmetrical Faults b. Types of Unsymmetrical Faults c. Effects of symmetrical Faults on power system **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://www.youtube.com/watch?v=HcMh7ahJxfo&t=423s&pp=ygUaVW5zeW1tZXRyaWNhbCBmYXVsdHMgbnB0ZWw%3D Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 4	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Articulate the concept of Symmetrical faults b. Analyse the effects of symmetrical faults on Power System
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by symmetrical fault? How often a symmetrical fault can occur? 2. **Development** (30 minutes) a. Symmetrical Faults b. Effects of symmetrical Faults on power system **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 5	Course Name: Power System-II	Course No.: EE-701

Objectives	At the end of the lesson the student shall be able to: a. Understand the concept of buses in power system b. Analyse the importance of current carrying capacity of bus
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by bus? What should be the maximum current that a bus can withstand? 2. **Development** (30 minutes) a. Introduction to the buses in power system b. Short circuit capacity of a bus **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/24m4xnIFj4E Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 6	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Understand the requirement of Circuit breakers in Power system b. Investigate the significance of current rating of circuit breakers.
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by Circuit breakers? On what parameter working of circuit breaker depends? 2. **Development** (30 minutes) a. Requirement of circuit breaker b. Conditions for a ideal circuit breaker c. Current rating of circuit breaker **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 7	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Sketch the single line diagram for any power system circuit b. The application of Single line diagram in solving problems
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you relate by term single line diagram? Can we reduce the system diagram? 2. **Development** (30 minutes) a. Introduction to Single line diagram b. Procedure to draw single line diagram of a power system c. Applications of Single line diagram **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/BYtY61hOiaw Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 8	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Examine the importance of impedance and reactance diagram in power system b. Analyse the procedure followed for the formation of Impedance and Reactance diagram
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you by impedance and reactance? What if all the system can be represented by its reactance only 2. **Development** (30 minutes) a. Introduction impedance and reactance b. Procedure to draw impedance diagram c. Procedure to draw reactance diagram **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/BYtY61hOiaw Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 9	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Understand the process of conversion of per unit representation b. Analyse the concept of percentage reactance and resistance in per unit system
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions How can we convert each quantity in per unit? What do you understand by term base or reference? 2. **Development** (30 minutes) a. Introduction to per unit conversion b. Concept of percentage reactance and reactance c. Selection of Base KVA and Base KV d. Advantages and disadvantages of per unit system **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/NHxGvHHZTQQ Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 10	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Understand the concept of per unit system in power system b. Appraise the requirement for per unit system for power system calculations
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What if all the quantities in problem are in same unit? Is it possible to do so? 2. **Development** (30 minutes) a. Introduction to per unit system b. Various types of procedures to represent a system **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/DPXslsbGmmA Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 11	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Investigate the effect of faults of electrical system b. Analyse the various categories of faults
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by fault? Why faults are not acceptable in a healthy electrical system? 2. **Development** (30 minutes) a. Introduction to faults b. Various types of 3 phase faults **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://www.youtube.com/watch?v=24X4znh4nl0&pp=ygUcU3ltbWV0cmljYWwgQ29tcG9uZW50cyBucHRlbA%3D%3D Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 12	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Differentiate the single current component into three sequence components b. Understand the formation of sequence network.
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions How to access the severity of the fault? What do you mean by the term "Fault Current"? 2. **Development** (30 minutes) a. Sequence Components b. Significance of operator "a" c. Sequence Networks **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture Video Link Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 13	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Articulate the concept of Unsymmetrical faults b. Analyse the effects of Unsymmetrical faults on Power System
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by Unsymmetrical fault? How often a Unsymmetrical fault can occur? 2. **Development** (30 minutes) a. UnSymmetrical Faults b. Types of Unsymmetrical Faults c. Effects of symmetrical Faults on power system **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://www.youtube.com/watch?v=HcMh7ahJxfo&t=423s&pp=ygUaVW5zeW1tZXRyaWNhbCBmYXVsdHMgbnB0ZWw%3D Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 14	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Articulate the concept of Symmetrical faults b. Analyse the effects of symmetrical faults on Power System
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by symmetrical fault? How often a symmetrical fault can occur? 2. **Development** (30 minutes) a. Symmetrical Faults b. Effects of symmetrical Faults on power system **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 15	Course Name: Power System-II	Course No.: EE-701

Objectives	At the end of the lesson the student shall be able to: a. Understand the concept of buses in power system b. Analyse the importance of current carrying capacity of bus
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by bus? What should be the maximum current that a bus can withstand? 2. **Development** (30 minutes) a. Introduction to the buses in power system b. Short circuit capacity of a bus **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/24m4xnIFj4E Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 16	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Understand the requirement of Circuit breakers in Power system b. Investigate the significance of current rating of circuit breakers.
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by Circuit breakers? On what parameter working of circuit breaker depends? 2. **Development** (30 minutes) a. Requirement of circuit breaker b. Conditions for a ideal circuit breaker c. Current rating of circuit breaker **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No.17	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Understand the process of conversion of per unit representation b. Analyse the concept of percentage reactance and resistance in per unit system
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions How can we convert each quantity in per unit? What do you understand by term base or reference? 2. **Development** (30 minutes) a. Introduction to per unit conversion b. Concept of percentage reactance and reactance c. Selection of Base KVA and Base KV d. Advantages and disadvantages of per unit system **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/NHxGvHHZTQQ Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 18	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Sketch the single line diagram for any power system circuit b. The application of Single line diagram in solving problems
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you relate by term single line diagram? Can we reduce the system diagram? 2. **Development** (30 minutes) a. Introduction to Single line diagram b. Procedure to draw single line diagram of a power system c. Applications of Single line diagram **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/BYtY61hOiaw Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 19	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Examine the importance of impedance and reactance diagram in power system b. Analyse the procedure followed for the formation of Impedance and Reactance diagram
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you by impedance and reactance? What if all the system can be represented by its reactance only 2. **Development** (30 minutes) a. Introduction impedance and reactance b. Procedure to draw impedance diagram c. Procedure to draw reactance diagram **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/BYtY61hOiaw Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 20	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Understand the concept of per unit system in power system b. Appraise the requirement for per unit system for power system calculations
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What if all the quantities in problem are in same unit? Is it possible to do so? 2. **Development** (30 minutes) a. Introduction to per unit system b. Various types of procedures to represent a system **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://youtu.be/DPXslsbGmmA Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents

Lesson Plan No. 21	Course Name: Power System-II	Course No.: EE-701 (A)

Objectives	At the end of the lesson the student shall be able to: a. Investigate the effect of faults of electrical system b. Analyse the various categories of faults
Teaching Aids (if any)	a. Power point presentation b. Use of Nearpod tool for online quiz
Teaching Development	1. **Introduction** (5 minutes) - Ask questions What do you mean by fault? Why faults are not acceptable in a healthy electrical system? 2. **Development** (30 minutes) a. Introduction to faults b. Various types of 3 phase faults **3. Exercise (5 minutes) –** Ask students to explain each block with the help of examples. Use Nearpod to collect responses and discuss the answers.
Closure	1. Summarize the Lesson Learning Outcomes and get affirmation from students on these. 2. Suggested Video Lecture https://www.youtube.com/watch?v=24X4znh4nl0&pp=ygUcU3ltbWV0cmljYWwgQ29tcG9uZW50cyBucHRlbA%3D%3D Spend 5 minutes to wrap up and consolidate the learning's
Evaluation	1. Reflective Questions (What, Why, Who?). Allow students to answer and discuss. 2. Nearpod Quiz 3. Poll Spend 5 minutes to evaluate student assimilation of the lesson contents