

26/3/2020 to  
04/04/2020

Module	Topics[1Hr Each]	PPT	Video Links	E-Materials
15EE81 .3	Lecture 1 Automatic Generation Control (continued): Mathematical Model of Automatic Load Frequency Control	<a href="https://www.slideshare.net/minalrade1/automatic-generation-control-161195588?qid=2dc855ff-03be-4ca7-b219-610de057632e&amp;v=&amp;b=&amp;from_search=5">https://www.slideshare.net/minalrade1/automatic-generation-control-161195588?qid=2dc855ff-03be-4ca7-b219-610de057632e&amp;v=&amp;b=&amp;from_search=5</a>	<a href="https://youtu.be/fK_j_3ZJwuk">https://youtu.be/fK_j_3ZJwuk</a>	<a href="https://drive.google.com/open?id=1MborzBrSAo61srYX7bNAkiUPp9f6jxZo">https://drive.google.com/open?id=1MborzBrSAo61srYX7bNAkiUPp9f6jxZo</a>
	Lecture 2 (continued): Mathematical Model of Automatic Load Frequency Control		<a href="https://youtu.be/tUO3XPhCAX0">https://youtu.be/tUO3XPhCAX0</a>	<a href="https://drive.google.com/open?id=1kiEptKz2P83RsIG3CZIQzx7gdTJEgemA">https://drive.google.com/open?id=1kiEptKz2P83RsIG3CZIQzx7gdTJEgemA</a>
	Lecture 3 (continued): Mathematical Model of Automatic Load Frequency Control		<a href="https://youtu.be/au7i8kH1TiQ">https://youtu.be/au7i8kH1TiQ</a>	<a href="https://drive.google.com/open?id=1sSjxU9Oy_N-LPCP2WuK-k7nTGkToi-wr">https://drive.google.com/open?id=1sSjxU9Oy_N-LPCP2WuK-k7nTGkToi-wr</a>
	Lecture 4 AGC Controller		<a href="https://youtu.be/XdS_bKLka58">https://youtu.be/XdS_bKLka58</a>	<a href="https://drive.google.com/open?id=1VT_EaUP53tl-DuD_-PGDzXOT5RAjD2QjU">https://drive.google.com/open?id=1VT_EaUP53tl-DuD_-PGDzXOT5RAjD2QjU</a>
	Lecture 5 Proportional Integral Controller		<a href="https://youtu.be/MmGVuAXN-Y0">https://youtu.be/MmGVuAXN-Y0</a>	<a href="https://drive.google.com/open?id=1hgcdxqW029rby7YxC_PEqPsTGN30BiOi">https://drive.google.com/open?id=1hgcdxqW029rby7YxC_PEqPsTGN30BiOi</a>
	Lecture 6 Automatic Generation Control in interconnected Power system: Introductions		<a href="https://youtu.be/t9mbaGk2bPg">https://youtu.be/t9mbaGk2bPg</a>	<a href="https://drive.google.com/open?id=1liwwgJSU2YL7EOqcXjDSavilvNfEVbgh">https://drive.google.com/open?id=1liwwgJSU2YL7EOqcXjDSavilvNfEVbgh</a>
	Lecture 7 Tie - Line Control with Primary Speed Control		<a href="https://nptel.ac.in/courses/108/104/108104052/">https://nptel.ac.in/courses/108/104/108104052/</a>	<a href="https://drive.google.com/open?id=1XYs2Mz02IMcYisD5MXauHpN2W-7gdmzj">https://drive.google.com/open?id=1XYs2Mz02IMcYisD5MXauHpN2W-7gdmzj</a>
	Lecture 8 Frequency Bias Tie - Line Control		<a href="https://youtu.be/t9mbaGk2bPg">https://youtu.be/t9mbaGk2bPg</a>	<a href="https://drive.google.com/open?id=15Qairhz6uYjvNB8RExDD8IvlbLxiwirQ">https://drive.google.com/open?id=15Qairhz6uYjvNB8RExDD8IvlbLxiwirQ</a>
	Lecture 9 Frequency Bias Tie - Line Control			<a href="https://drive.google.com/open?id=1CzUwfxp9dPWx1yga-Le526jjM9269V6f">https://drive.google.com/open?id=1CzUwfxp9dPWx1yga-Le526jjM9269V6f</a>
	Lecture 10 -State-Space Models.			<a href="https://drive.google.com/open?id=1tW27eYVAKDyJG2Q_0VL-gGATplpB2-dh">https://drive.google.com/open?id=1tW27eYVAKDyJG2Q_0VL-gGATplpB2-dh</a>

15EE82 .3	Lecture 1 - Analysis and Performance of Three Phase Induction Motors		<a href="https://youtu.be/LcBvFz6COc">https://youtu.be/LcBvFz6COc</a>	
	Lecture 2 - Operation with Unbalanced Source Voltage and Single Phasing		<a href="https://youtu.be/7WbklWdTG">https://youtu.be/7WbklWdTG</a>	
	Lecture 3 - Operation with Unbalanced Rotor Impedances, Analysis of Induction Motor fed from Non-Sinusoidal Voltage Supply		<a href="https://youtu.be/OBh3BZP0C">https://youtu.be/OBh3BZP0C</a>	
	Lecture 4 - Single Phasing and Starting of Induction Motors		<a href="https://youtu.be/wVglBA_BdoM">https://youtu.be/wVglBA_BdoM</a>	
	Lecture 5 - Starting Analysis	<a href="https://www.slideshare.net/askrishna211/ac-drives">https://www.slideshare.net/askrishna211/ac-drives</a>	<a href="https://youtu.be/VN8x2YkosyU">https://youtu.be/VN8x2YkosyU</a>	<a href="https://www.smartzworld.com/downloads/vtunotes/download/ida-pdf-notes-unit-5-6-eee-branch/">https://www.smartzworld.com/downloads/vtunotes/download/ida-pdf-notes-unit-5-6-eee-branch/</a>
	Lecture 6 - Braking Analysis		<a href="https://youtu.be/NqtaIwAFasU">https://youtu.be/NqtaIwAFasU</a>	
	Lecture 7 - Transient Analysis		<a href="https://youtu.be/6KKHcFU-FVc">https://youtu.be/6KKHcFU-FVc</a>	
	Lecture 8 - Special Rotor Construction, Speed Control Techniques - Stator Voltage Control		<a href="https://youtu.be/6KKHcFU-FVc">https://youtu.be/6KKHcFU-FVc</a>	
	Lecture 9 - Variable frequency Control from Voltage Sources		<a href="https://youtu.be/jR6gr4hVGPO">https://youtu.be/jR6gr4hVGPO</a>	
	Lecture 10 - Pole changing and Pole Amplitude Modulation of Induction motors		<a href="https://youtu.be/ZADWe-6Ve40">https://youtu.be/ZADWe-6Ve40</a>	
<b>15EE8 32.3</b>	Lecture 1- Site Assessment:	<a href="https://www.slideshare.net/EyadAdnan/conducting-a-site-assessment-and-pv-system-field-survey">https://www.slideshare.net/EyadAdnan/conducting-a-site-assessment-and-pv-system-field-survey</a>		<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>

Lecture 2- Solar  Pathfinder,SolmetricSune ye,HORlcatcher,iPhone apps,Software packages,Available area,Portraitinstallation,Landscape installation,	<a href="https://www.slideshare.net/allison_bouwman/lesson-3-ppt-12962625">https://www.slideshare.net/allison_bouwman/lesson-3-ppt-12962625</a>	<a href="https://www.youtube.com/watch?v=NOLuKSVXWgU&amp;t=70s">https://www.youtube.com/watch?v=NOLuKSVXWgU&amp;t=70s</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6</a>
Lecture 3- Revision - Site Assessment:	<a href="https://www.slideshare.net/EyadAdnan/conducting-a-site-assessment-and-pv-system-field-survey">https://www.slideshare.net/EyadAdnan/conducting-a-site-assessment-and-pv-system-field-survey</a>		<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6</a>
Lecture -4- Revision - Solar  Pathfinder,SolmetricSune ye,HORlcatcher,iPhone apps,Software packages,Available area,Portraitinstallation,Landscape installation,	<a href="https://www.slideshare.net/allison_bouwman/lesson-3-ppt-12962625">https://www.slideshare.net/allison_bouwman/lesson-3-ppt-12962625</a>	<a href="https://www.youtube.com/watch?v=NOLuKSVXWgU&amp;t=70s">https://www.youtube.com/watch?v=NOLuKSVXWgU&amp;t=70s</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6</a>
Lecture 5- Energy efficiency initiatives,Health, safety and environment(HSE) risks,Local environment,Locating balance of system equipment,Site plan.	<a href="https://www.slideshare.net/OhsasConsultant/ppt-presentation-on-hse-manual">https://www.slideshare.net/OhsasConsultant/ppt-presentation-on-hse-manual</a>	-	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6</a>
Lecture 6 - Design brief,Existing system evaluation, Choosing systemcomponents,Modules, Mounting structure,	<a href="http://nordicindia.com/wp-content/uploads/2015/03/Nordic-Solar-Mounting-Structures.pdf">http://nordicindia.com/wp-content/uploads/2015/03/Nordic-Solar-Mounting-Structures.pdf</a>	<a href="https://www.youtube.com/watch?v=MDWJFG4sUe0">https://www.youtube.com/watch?v=MDWJFG4sUe0</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCot9BPMB_6</a>

<p>Lecture 7 - Inverters,Cabling,Voltage sizing,Current sizing,Monitoring,System protection,Over-current protection,Fault-current protection, Lightning andsurge protection, Grounding/earthing,Mec hanical protection, Array protection, Sub-array protection, Extra low voltage (ELV) segmentation.</p>	<p><a href="https://www.slideshare.net/JmvLps2/grounding-for-solar-pv-panels">https://www.slideshare.net/JmvLps2/grounding-for-solar-pv-panels</a></p>	<p><a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=2&amp;cad=rja&amp;uact=8&amp;ved=2ahUKEwi62dSt_LDoAhVxmeYKHZS-BesQFjABegQIDBAJ&amp;url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3D1ldNGpd7ebY&amp;usg=AOvVaw0NF839BOAGYcfajuQhuJRU">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=2&amp;cad=rja&amp;uact=8&amp;ved=2ahUKEwi62dSt_LDoAhVxmeYKHZS-BesQFjABegQIDBAJ&amp;url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3D1ldNGpd7ebY&amp;usg=AOvVaw0NF839BOAGYcfajuQhuJRU</a></p>	<p><a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7llmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7llmCot9BPMB_6</a></p>
<p>Lecture 8 - Introduction, Matching voltage specifications, Calculating maximum voltage, Calculating minimum voltage, Calculating the minimum number of modules in astring, Calculating the maximum voltage, Calculating the maximum number of modules in astring, Calculating the inimum voltage, Calculating the minimum number of modules in a string,</p>	<p><a href="http://www.scielo.org.co/scielo.php?script=sci_arttext&amp;pid=S0120-56092016000300008">http://www.scielo.org.co/scielo.php?script=sci_arttext&amp;pid=S0120-56092016000300008</a></p>	<p><a href="https://www.youtube.com/watch?v=O9-PuK9_Wik">https://www.youtube.com/watch?v=O9-PuK9_Wik</a></p>	<p><a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7llmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7llmCot9BPMB_6</a></p>

Lecture 9 - Matching current specifications, Matching modules to the inverter's power rating, Losses in utility-interactive PV systems, Temperature of the PV module ,Dirt and soiling, Manufacturer's tolerance, Shading	<p>1. <a href="https://www.slideshare.net/ChalithaSenevirathna/pv-array-and-inverter-matching">https://www.slideshare.net/ChalithaSenevirathna/pv-array-and-inverter-matching</a></p> <p>2. <a href="https://www.slideshare.net/gouravkumar220/solar-panel-technology-ppt">https://www.slideshare.net/gouravkumar220/solar-panel-technology-ppt</a></p>	<a href="https://www.youtube.com/watch?v=BRMLvzEgvcE">https://www.youtube.com/watch?v=BRMLvzEgvcE</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCOt9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCOt9BPMB_6</a>
Lecture 10 - Orientation and module tilt angle, Voltage drop Inverter efficiency, Calculating system yield.	<p>1. <a href="http://www.greenerenergy.ca/PDFs/Tilt%20and%20Angle%20Orientation%20of%20Solar%20Panels.pdf">http://www.greenerenergy.ca/PDFs/Tilt%20and%20Angle%20Orientation%20of%20Solar%20Panels.pdf</a></p> <p>2. <a href="https://www.slideshare.net/vishalgawhale1/solar-inverter-73025540">https://www.slideshare.net/vishalgawhale1/solar-inverter-73025540</a></p>	<p>1. <a href="https://www.youtube.com/watch?v=1lL3u9peM7Y">https://www.youtube.com/watch?v=1lL3u9peM7Y</a></p> <p>2. <a href="https://www.youtube.com/watch?v=zPuEbtlr-3k">https://www.youtube.com/watch?v=zPuEbtlr-3k</a></p>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCOt9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCOt9BPMB_6</a>

April 5th -8th

Module	Topics[1Hr Each]	PPT	Video Links	E- Materials
15EE81	Lecture1: State-Space Model for Two - Area System,	<a href="https://www.slideshare.net/minalrade1/automatic-generation-control-161195588?qid=2dc855ff-03be-4ca7-b219-610de057632e&amp;v=&amp;b=&amp;from_search=5">https://www.slideshare.net/minalrade1/automatic-generation-control-161195588?qid=2dc855ff-03be-4ca7-b219-610de057632e&amp;v=&amp;b=&amp;from_search=5</a>	<a href="https://youtu.be/fK_j_3ZJwuk">https://youtu.be/fK_j_3ZJwuk</a>	<a href="https://drive.google.com/open?id=1Dx8pLycL8CH8SZWgnHWOiIVlek7gOHLB">https://drive.google.com/open?id=1Dx8pLycL8CH8SZWgnHWOiIVlek7gOHLB</a>
	Lecture 2:Tie-Line Oscillations		<a href="https://youtu.be/tUO3XPhCAX0">https://youtu.be/tUO3XPhCAX0</a>	<a href="https://drive.google.com/file/d/13U79fxe9J_5y_NDpKtNqH8Qnz_ZPY3fo/view?usp=sharing">https://drive.google.com/file/d/13U79fxe9J_5y_NDpKtNqH8Qnz_ZPY3fo/view?usp=sharing</a>
	Lecture 3 :Related Issues in Implementation of AGC		<a href="https://youtu.be/au7i8kH1TIQ">https://youtu.be/au7i8kH1TIQ</a>	<a href="https://drive.google.com/file/d/1fs0lpW03Ff93a0oEOEDrhlqdzogz6FI6/view?usp=sharing">https://drive.google.com/file/d/1fs0lpW03Ff93a0oEOEDrhlqdzogz6FI6/view?usp=sharing</a>

	Lecture 4: Voltage and Reactive Power Control: Introduction		<a href="https://youtu.be/XdS_bKlka58">https://youtu.be/XdS_bKlka58</a>	<a href="https://drive.google.com/file/d/1Slw9HdLIUt_zNtmaWVPaGnh0kOpVd5B1/view?usp=sharing">https://drive.google.com/file/d/1Slw9HdLIUt_zNtmaWVPaGnh0kOpVd5B1/view?usp=sharing</a>
	Lecture 5: Production and Absorption of Reactive Power		<a href="https://youtu.be/MmGVuAXN-YO">https://youtu.be/MmGVuAXN-YO</a>	<a href="https://drive.google.com/file/d/14-bmkXAve_PDPdRIAv72-gaQ4cdpJ8Tt/view?usp=sharing">https://drive.google.com/file/d/14-bmkXAve_PDPdRIAv72-gaQ4cdpJ8Tt/view?usp=sharing</a>
	Lecture 6: Methods of Voltage Control, Dependence of Voltage on Reactive Power		<a href="https://youtu.be/t9mbaGk2bPg">https://youtu.be/t9mbaGk2bPg</a>	<a href="https://drive.google.com/file/d/1DbMUZFtXCrimUZST_CbEW2MK0-DzQb9R/view?usp=sharing">https://drive.google.com/file/d/1DbMUZFtXCrimUZST_CbEW2MK0-DzQb9R/view?usp=sharing</a>
	Lecture 7: Sensitivity of Voltage to Changes in P And Q		<a href="https://nptel.ac.in/courses/108/104/108104052/">https://nptel.ac.in/courses/108/104/108104052/</a>	<a href="https://drive.google.com/file/d/1F6IMYhtR5vNhbJpK1uxTZxqkymRrIvLx/view?usp=sharing">https://drive.google.com/file/d/1F6IMYhtR5vNhbJpK1uxTZxqkymRrIvLx/view?usp=sharing</a>
	Lecture 8: Cost Saving, Methods of Voltage Control by Reactive Power Injection,		<a href="https://youtu.be/t9mbaGk2bPg">https://youtu.be/t9mbaGk2bPg</a>	<a href="https://drive.google.com/file/d/1gTm6Rv8tYpRWba1txTKoThuKw6hmJfEG/view?usp=sharing">https://drive.google.com/file/d/1gTm6Rv8tYpRWba1txTKoThuKw6hmJfEG/view?usp=sharing</a>
	Lecture 9: Voltage Control Using Transformers			<a href="https://drive.google.com/open?id=19HZFX5ScQw9tmmqjNs3WdfpFiw0clZI">https://drive.google.com/open?id=19HZFX5ScQw9tmmqjNs3WdfpFiw0clZI</a>
	Lecture 10: Voltage Control Using Transformers			<a href="https://drive.google.com/open?id=19HZFX5ScQw9tmmqjNs3WdfpFiw0clZI">https://drive.google.com/open?id=19HZFX5ScQw9tmmqjNs3WdfpFiw0clZI</a>
15EE82 .4	Lecture - 01 Induction Motor Drives - Voltage Source Inverter (VSI) Control	<a href="https://www.slideshare.net/gurumoorthi2/three-phase-induction-motor-drive">https://www.slideshare.net/gurumoorthi2/three-phase-induction-motor-drive</a>	<a href="https://youtu.be/6KKHcFU-FVc">https://youtu.be/6KKHcFU-FVc</a>	<a href="https://nptel.ac.in/content/storage2/courses/108105063/pdf/L-34(SM)%20(IA&amp;C)%20((EE)NPTEL).pdf">https://nptel.ac.in/content/storage2/courses/108105063/pdf/L-34(SM)%20(IA&amp;C)%20((EE)NPTEL).pdf</a>
	Lecture - 02 Cycloconverter control		<a href="https://youtu.be/jR6gr4hVGPQ">https://youtu.be/jR6gr4hVGPQ</a>	
	Lecture - 03 Closed Loop Speed Control	<a href="https://www.academia.edu/36943430/Presentation_on_Speed_Control_of_Induction_Motor?auto=download">https://www.academia.edu/36943430/Presentation_on_Speed_Control_of_Induction_Motor?auto=download</a>	<a href="https://youtu.be/ZADWe-6Ve40">https://youtu.be/ZADWe-6Ve40</a>	<a href="https://www.smartzworld.com/downloads/vtunotes/download/ida-pdf-notes-unit-5-6-eee-branch/">https://www.smartzworld.com/downloads/vtunotes/download/ida-pdf-notes-unit-5-6-eee-branch/</a>
	Lecture - 04 Variable Frequency Control from a Current Source		<a href="https://youtu.be/82p5f0BRyyQ">https://youtu.be/82p5f0BRyyQ</a>	
	Lecture - 05 Current Source (CSI) Control	<a href="https://www.slideshare.net/SHAHUKHALAM10/speed-control-of-single-phase-induction-">https://www.slideshare.net/SHAHUKHALAM10/speed-control-of-single-phase-induction-</a>	<a href="https://youtu.be/SIJPswcGKCQ">https://youtu.be/SIJPswcGKCQ</a>	
	Lecture - 06 Current		<a href="https://youtu.be/MDugo6ogCA">https://youtu.be/MDugo6ogCA</a>	

	regulated voltage source inverter control	<a href="https://www.coursehero.com/file/26822854/AC-DRIVESppt/">motor-with-variable-frequency-voltage-source-inverters</a>	<a href="https://www.youtube.com/watch?v=ILXzYm49Nkk">0</a>	
	Lecture - 07 Single Phase Induction motors - Starting methods & Types	<a href="https://www.coursehero.com/file/26822854/AC-DRIVESppt/">https://www.coursehero.com/file/26822854/AC-DRIVESppt/</a>	<a href="https://youtu.be/Y2WcMiHU">https://youtu.be/Y2WcMiHU</a>	<a href="https://www.smarzworld.com/downloads/vtunotes/download/ida-pdf-notes-unit-7-eee-branch/">https://www.smarzworld.com/downloads/vtunotes/download/ida-pdf-notes-unit-7-eee-branch/</a>
	Lecture - 08 Speed control of single phase induction motors.		<a href="https://www.youtube.com/watch?v=hdrG9rRJIew">https://www.youtube.com/watch?v=hdrG9rRJIew</a>	
	Lecture - 09 Synchronous Motor Drives - Operation from fixed frequency supply	<a href="https://www.slideshare.net/guru moorthi2/synchronous-motor-drive">https://www.slideshare.net/guru moorthi2/synchronous-motor-drive</a>	<a href="https://www.youtube.com/watch?v=VZdhSzhcB7w">https://www.youtube.com/watch?v=VZdhSzhcB7w</a>	
	Lecture - 10 Starting of synchronous motor		<a href="https://www.youtube.com/watch?v=ILXzYm49Nkk">https://www.youtube.com/watch?v=ILXzYm49Nkk</a>	
15EE83 2	Lecture 1 - Installing Grid-connected PV Systems:PV array installation, DC wiring, Cabling routes and required lengths,Cable sizing,	<a href="https://www.slideshare.net/scientistjones/solar-pv-systems-63919489">https://www.slideshare.net/scientistjones/solar-pv-systems-63919489</a>	<a href="https://www.youtube.com/watch?v=aKPJh_vtRG8">https://www.youtube.com/watch?v=aKPJh_vtRG8</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCOT9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCOT9BPMB_6</a>
	Lecture 2 :PV combiner box, System grounding/earthing, Inverter installation,	1. <a href="https://www.powershow.com/view0/87bde3-NmRiO/String_Combiner_Box_and_String_Monitoring_Modules_powerpoint_ppt_presentation">https://www.powershow.com/view0/87bde3-NmRiO/String_Combiner_Box_and_String_Monitoring_Modules_powerpoint_ppt_presentation</a> 2. <a href="https://www.academia.edu/19953396/Solar_Power_System_and_Inverter_Installation_Report">https://www.academia.edu/19953396/Solar_Power_System_and_Inverter_Installation_Report</a>	1. <a href="https://www.youtube.com/watch?v=-kjM9VWKHnk">https://www.youtube.com/watch?v=-kjM9VWKHnk</a> 2. <a href="https://www.youtube.com/watch?v=XgGjfUEWgZY">https://www.youtube.com/watch?v=XgGjfUEWgZY</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCOT9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCOT9BPMB_6</a>
	Lecture 3 :Installation checklist, Interconnection with the utility grid, Required	<a href="https://www.slideshare.net/ashishant/solar-power-integration-with-grid">https://www.slideshare.net/ashishant/solar-power-integration-with-grid</a>	<a href="https://www.youtube.com/watch?v=VI3vNsiqwKE">https://www.youtube.com/watch?v=VI3vNsiqwKE</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCOT9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7lImCOT9BPMB_6</a>

information for installation,Safety.			
Lecture 4: System Commissioning: Introduction, Final inspection of system installation,	<a href="https://www.youtube.com/watch?v=3SqRlqvhJms">https://www.youtube.com/watch?v=3SqRlqvhJms</a>	<a href="https://www.youtube.com/watch?v=3SqRlqvhJms">https://www.youtube.com/watch?v=3SqRlqvhJms</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>
Lecture 5: Testing, Commissioning, System documentation.	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>
Lecture 6: System Operation and Maintenance: System maintenance, PV array maintenance,	<a href="https://www.slideshare.net/AnmoJaggi/optimizing-operation-maintenance-practices-for-solar-power-plant-57770428">https://www.slideshare.net/AnmoJaggi/optimizing-operation-maintenance-practices-for-solar-power-plant-57770428</a>	<a href="https://www.youtube.com/watch?v=3ok-cSugQC0">https://www.youtube.com/watch?v=3ok-cSugQC0</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>
Lecture 7: Inverter maintenance,	<a href="https://www.academia.edu/19953396/Solar_Power_System_and_Inverter_Installation_Report">https://www.academia.edu/19953396/Solar_Power_System_and_Inverter_Installation_Report</a>	<a href="https://www.youtube.com/watch?v=1SjlbQT0o3A">https://www.youtube.com/watch?v=1SjlbQT0o3A</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>
Lecture 8: System integrity, Troubleshooting, Identifying the problem,	<a href="https://ecgllp.com/files/6014/0200/1304/14-Commissioning-Maintenance-and-Troubleshooting.pdf">https://ecgllp.com/files/6014/0200/1304/14-Commissioning-Maintenance-and-Troubleshooting.pdf</a>	<a href="https://www.youtube.com/watch?v=KCUOCgeGwel">https://www.youtube.com/watch?v=KCUOCgeGwel</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>
Lecture 9: Troubleshooting PV arrays, Troubleshooting underperforming systems,	<a href="https://ecgllp.com/files/6014/0200/1304/14-Commissioning-Maintenance-and-Troubleshooting.pdf">https://ecgllp.com/files/6014/0200/1304/14-Commissioning-Maintenance-and-Troubleshooting.pdf</a>	<a href="https://www.youtube.com/watch?v=KCUOCgeGwel">https://www.youtube.com/watch?v=KCUOCgeGwel</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>
Lecture 10: Troubleshooting inverters, Other common problems.	1. <a href="https://www.academia.edu/19953396/Solar_Power_System_and_Inverter_Installation_Report">https://www.academia.edu/19953396/Solar_Power_System_and_Inverter_Installation_Report</a> 2. <a href="https://www.slideshare.net/singhs_hivam1995/solar-inverter-62495618">https://www.slideshare.net/singhs_hivam1995/solar-inverter-62495618</a>	<a href="https://www.youtube.com/watch?v=LoZcpwqrxVk">https://www.youtube.com/watch?v=LoZcpwqrxVk</a>	<a href="https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6">https://drive.google.com/drive/u/0/folders/1UfDeERgRYYmPC2R-rn7IlmCot9BPMB_6</a>

15/04/2020 - 3/05/2020



Module	Topics[1Hr Each]	PPT	Video Links	E- Materials
15EE81 .5	Lecture 1 - Power System Reliability and Security: Introduction, Security Levels of System,	<a href="https://nptel.ac.in/content/storage2/nptel_data3/html/mhrd/ict/text/108105133/lec53.pdf">https://nptel.ac.in/content/storage2/nptel_data3/html/mhrd/ict/text/108105133/lec53.pdf</a>	<a href="https://nptel.ac.in/courses/108104052/">https://nptel.ac.in/courses/108104052/</a>	<a href="https://drive.google.com/open?id=1tMjgHTRuKVhBV2Lmwjg8eWb7_CPpUJsV">https://drive.google.com/open?id=1tMjgHTRuKVhBV2Lmwjg8eWb7_CPpUJsV</a>
	Lecture 2 :Reliability Cost		<a href="https://nptel.ac.in/courses/108104052/">https://nptel.ac.in/courses/108104052/</a>	<a href="https://drive.google.com/file/d/1LddL0bbEVf2Q9RZ3MJ17gdTclb8pMW-d/view?usp=sharing">https://drive.google.com/file/d/1LddL0bbEVf2Q9RZ3MJ17gdTclb8pMW-d/view?usp=sharing</a>
	Lecture3: Reliability Cost (numerical)		<a href="https://nptel.ac.in/courses/108104052/">https://nptel.ac.in/courses/108104052/</a>	<a href="https://drive.google.com/file/d/14i4okDHzCn1TiFB6RvKHWlue9jWtaUiG/view?usp=sharing">https://drive.google.com/file/d/14i4okDHzCn1TiFB6RvKHWlue9jWtaUiG/view?usp=sharing</a>
	Lecture 4 :Adequacy Indices, Functions of System Security		<a href="https://nptel.ac.in/courses/108104052/">https://nptel.ac.in/courses/108104052/</a>	<a href="https://drive.google.com/file/d/1QbvUMipt7Blzr9QCrVTrYpVphVb4YN4C/view?usp=sharing">https://drive.google.com/file/d/1QbvUMipt7Blzr9QCrVTrYpVphVb4YN4C/view?usp=sharing</a>
	Lecture 5: Contingency Analysis,		<a href="https://nptel.ac.in/courses/108104052/">https://nptel.ac.in/courses/108104052/</a>	<a href="https://drive.google.com/file/d/1I0jBsGghd7mgr3JbvwoVTW8uYAJR59hd/view?usp=sharing">https://drive.google.com/file/d/1I0jBsGghd7mgr3JbvwoVTW8uYAJR59hd/view?usp=sharing</a>
	Lecture 6:Linear Sensitivity Factors,		<a href="https://nptel.ac.in/courses/108104052/">https://nptel.ac.in/courses/108104052/</a>	<a href="https://drive.google.com/file/d/1I0jBsGghd7mgr3JbvwoVTW8uYAJR59hd/view?usp=sharing">https://drive.google.com/file/d/1I0jBsGghd7mgr3JbvwoVTW8uYAJR59hd/view?usp=sharing</a>
	Lecture 7: Contingency Selection and Ranking.		<a href="https://www.youtube.com/watch?v=x0g_Oua0SkA">https://www.youtube.com/watch?v=x0g_Oua0SkA</a>	<a href="https://drive.google.com/file/d/1h09ZDlvBoBJ3Gan8I4S_dqPETJpKzAhT/view?usp=sharing">https://drive.google.com/file/d/1h09ZDlvBoBJ3Gan8I4S_dqPETJpKzAhT/view?usp=sharing</a>
	Lecture 8: State estimation of Power Systems: Introduction		<a href="https://www.youtube.com/watch?v=x0g_Oua0SkA">https://www.youtube.com/watch?v=x0g_Oua0SkA</a>	<a href="https://drive.google.com/file/d/1ruJJQM MRQt6kFJW8vCR2u3f95wdnhruT/view?usp=sharing">https://drive.google.com/file/d/1ruJJQM MRQt6kFJW8vCR2u3f95wdnhruT/view?usp=sharing</a>
	Lecture 9: Linear Least Square Estimation		<a href="https://www.youtube.com/watch?v=x0g_Oua0SkA">https://www.youtube.com/watch?v=x0g_Oua0SkA</a>	<a href="https://drive.google.com/file/d/1LgtiabiSCnnKc901zkBQU4ZZXt0ljkLc/view?usp=sharing">https://drive.google.com/file/d/1LgtiabiSCnnKc901zkBQU4ZZXt0ljkLc/view?usp=sharing</a>
	Lecture 10: DC State Estimator,		<a href="https://www.youtube.com/watch?v=x0g_Oua0SkA">https://www.youtube.com/watch?v=x0g_Oua0SkA</a>	<a href="https://drive.google.com/file/d/15XQGYOgiypDDMh5zM3nPLG_2fN8-c7dU/view?usp=sharing">https://drive.google.com/file/d/15XQGYOgiypDDMh5zM3nPLG_2fN8-c7dU/view?usp=sharing</a>
	Lecture 11: Other Issues in State Estimation			<a href="https://drive.google.com/file/d/1I0jBsGghd7mgr3JbvwoVTW8uYAJR59hd/view?usp=sharing">https://drive.google.com/file/d/1I0jBsGghd7mgr3JbvwoVTW8uYAJR59hd/view?usp=sharing</a>
	Lecture 12:DC State			<a href="https://drive.google.com/file/d/1LgtiabiSC">https://drive.google.com/file/d/1LgtiabiSC</a>

	Estimator (Numerical)			<a href="https://www.youtube.com/watch?v=nnKc901zkBQU4ZZXt0ljkLc/view?usp=sharing">nnKc901zkBQU4ZZXt0ljkLc/view?usp=sharing</a>
15EE82 .5	Lecture - 01 Self-controlled synchronous motor drive employing load commutated thyristor inverter		<a href="https://youtu.be/AmFiEOVtcqc">https://youtu.be/AmFiEOVtcqc</a>	
	Lecture - 02 Starting of Large Synchronous Machines	<a href="https://www.slideshare.net/gurumoorthi2/synchronous-motor-drive">https://www.slideshare.net/gurumoorthi2/synchronous-motor-drive</a>	<a href="https://youtu.be/ZtwjZeBQR7M">https://youtu.be/ZtwjZeBQR7M</a>	<a href="https://www.smartzworld.com/download/vtunotes/download/ida-pdf-notes-units-7-eee-branch/">https://www.smartzworld.com/download/vtunotes/download/ida-pdf-notes-units-7-eee-branch/</a>
	Lecture - 03 Permanent Magnet ac (PMAC) Motor Drive	<a href="https://www.slideserve.com/aziza/permanent-magnet-synchronous-motor-drives-pmsm">https://www.slideserve.com/aziza/permanent-magnet-synchronous-motor-drives-pmsm</a>	<a href="https://youtu.be/VpSZPb1tcCl">https://youtu.be/VpSZPb1tcCl</a>	<a href="https://www.engr.colostate.edu/ECE462/FA14/Lab%20Manuals%20&amp;%20Example%20Data/NAU%20ED%20Lab%206%20-%20PMAC%20Motor.pdf">https://www.engr.colostate.edu/ECE462/FA14/Lab%20Manuals%20&amp;%20Example%20Data/NAU%20ED%20Lab%206%20-%20PMAC%20Motor.pdf</a>
	Lecture - 04 Sinusoidal PMAC Motor Drives	<a href="https://www.slideshare.net/karthi1017/pmsm-124027211">https://www.slideshare.net/karthi1017/pmsm-124027211</a>	<a href="https://www.youtube.com/watch?v=Wtq1JsY7O8E">https://www.youtube.com/watch?v=Wtq1JsY7O8E</a>	
	Lecture - 05 Brushless dc Motor Drives.	<a href="https://www.slideshare.net/ClintRobby/bldc-motors-ppt">https://www.slideshare.net/ClintRobby/bldc-motors-ppt</a>	<a href="https://www.youtube.com/watch?v=VaWGJVHiC8">https://www.youtube.com/watch?v=VaWGJVHiC8</a>	
	Lecture - 06 Variable Reluctance Permanent Magnet Stepper Motor Drives		<a href="https://www.youtube.com/watch?v=23i0prqMfT0">https://www.youtube.com/watch?v=23i0prqMfT0</a>	
	Lecture - 07 Important Features of Stepper Motors	<a href="https://www.slideshare.net/AnuragChaudhary1/stepper-motor-61414296">https://www.slideshare.net/AnuragChaudhary1/stepper-motor-61414296</a>	<a href="https://www.youtube.com/watch?v=jLf12AXFVvA">https://www.youtube.com/watch?v=jLf12AXFVvA</a>	
	Lecture - 08 Drive Circuits for Stepper Motor.		<a href="https://www.youtube.com/watch?v=7MgqW9zsmss">https://www.youtube.com/watch?v=7MgqW9zsmss</a>	<a href="https://nptel.ac.in/content/storage2/courses/108105063/pdf/L-32(SS)(IAC)%20((EE)NPTEL).pdf">https://nptel.ac.in/content/storage2/courses/108105063/pdf/L-32(SS)(IAC)%20((EE)NPTEL).pdf</a>
	Lecture - 09 Industrial Drives:Textile Mills		<a href="https://www.youtube.com/watch?v=384nEaRUDI4">https://www.youtube.com/watch?v=384nEaRUDI4</a>	
	Lecture - 10 Steel Rolling Mills		<a href="https://www.youtube.com/watch?v=QHgNoSYlhYs">https://www.youtube.com/watch?v=QHgNoSYlhYs</a>	
	Lecture - 11 Cranes and Hoists	<a href="https://www.slideshare.net/kudkewar1/electric-drive-53910557">https://www.slideshare.net/kudkewar1/electric-drive-53910557</a>	<a href="https://www.youtube.com/watch?v=xejnSzbFMQA">https://www.youtube.com/watch?v=xejnSzbFMQA</a>	<a href="https://www.smartzworld.com/download/vtunotes/download/ida-pdf-notes-units-8-eee-branch/">https://www.smartzworld.com/download/vtunotes/download/ida-pdf-notes-units-8-eee-branch/</a>
	Lecture - 12 Machine tools		<a href="https://www.youtube.com/watch?v=EBMJn0CyRKc">https://www.youtube.com/watch?v=EBMJn0CyRKc</a>	

15EE83 2.5	Lecture 1: Marketing and Economics of Grid-connected PV Systems:Introduction,	<a href="https://www.slideshare.net/SudhanwaSahoo/economics-of-solar-pv-power">https://www.slideshare.net/SudhanwaSahoo/economics-of-solar-pv-power</a>	<a href="https://www.youtube.com/watch?v=eqoUZnujeOc">https://www.youtube.com/watch?v=eqoUZnujeOc</a>	
	Lecture 2 :PV system costing,Valuing a PV system	<a href="https://www.slideshare.net/maliksameeullah/pay-back-period-and-cost-base-analysis-of-solar-pv-lantern">https://www.slideshare.net/maliksameeullah/pay-back-period-and-cost-base-analysis-of-solar-pv-lantern</a>	<a href="https://www.youtube.com/watch?v=xkWxZm_PzU4">https://www.youtube.com/watch?v=xkWxZm_PzU4</a>	<a href="https://us.sunpower.com/sites/default/files/media-library/white-papers/wp-residential-real-estate-appraisers-guide-accurately-valuate-residential-rooftop-solar-electric-pv.pdf">https://us.sunpower.com/sites/default/files/media-library/white-papers/wp-residential-real-estate-appraisers-guide-accurately-valuate-residential-rooftop-solar-electric-pv.pdf</a>
	Lecture 3 :Simple payback	<a href="https://www.slideshare.net/maliksameeullah/pay-back-period-and-cost-base-analysis-of-solar-pv-lantern">https://www.slideshare.net/maliksameeullah/pay-back-period-and-cost-base-analysis-of-solar-pv-lantern</a>	<a href="https://www.youtube.com/watch?v=KIMtqGlak68">https://www.youtube.com/watch?v=KIMtqGlak68</a> <a href="https://www.youtube.com/watch?v=gDIUMCX1XhM">https://www.youtube.com/watch?v=gDIUMCX1XhM</a>	
	Lecture 4 : financial incentives	<a href="https://www.slideshare.net/maliksameeullah/pay-back-period-and-cost-base-analysis-of-solar-pv-lantern">https://www.slideshare.net/maliksameeullah/pay-back-period-and-cost-base-analysis-of-solar-pv-lantern</a>	<a href="https://www.youtube.com/watch?v=KIMtqGlak68">https://www.youtube.com/watch?v=KIMtqGlak68</a> <a href="https://www.youtube.com/watch?v=gDIUMCX1XhM">https://www.youtube.com/watch?v=gDIUMCX1XhM</a>	
	Lecture 5: Simple payback,Feed-in tariffs	<a href="https://www.slideshare.net/Jupiter276/malaysia-fit-presentation-dec-2010">https://www.slideshare.net/Jupiter276/malaysia-fit-presentation-dec-2010</a>	<a href="https://www.youtube.com/watch?v=vD7tBqVfKT0">https://www.youtube.com/watch?v=vD7tBqVfKT0</a> <a href="https://www.youtube.com/watch?v=3B8CN4hqAa0">https://www.youtube.com/watch?v=3B8CN4hqAa0</a>	
	Lecture 6: Simple payback,Feed-in tariffs	<a href="https://www.slideshare.net/Jupiter276/malaysia-fit-presentation-dec-2010">https://www.slideshare.net/Jupiter276/malaysia-fit-presentation-dec-2010</a>	<a href="https://www.youtube.com/watch?v=vD7tBqVfKT0">https://www.youtube.com/watch?v=vD7tBqVfKT0</a> <a href="https://www.youtube.com/watch?v=3B8CN4hqAa0">https://www.youtube.com/watch?v=3B8CN4hqAa0</a>	
	Lecture 7:Rebates	<a href="https://www.slideshare.net/PrachetSokhiya/solar-photovoltaic-system">https://www.slideshare.net/PrachetSokhiya/solar-photovoltaic-system</a>	<a href="https://www.youtube.com/watch?v=-k6lcZvBHB0">https://www.youtube.com/watch?v=-k6lcZvBHB0</a>	
	Lecture 8: ,Tax incentives	<a href="https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/solar_finance_for_residential_commercial_customers.pdf">https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/solar_finance_for_residential_commercial_customers.pdf</a>	<a href="https://www.youtube.com/watch?v=lnxpv1swXEs">https://www.youtube.com/watch?v=lnxpv1swXEs</a>	
	Lecture 9: Loans	<a href="https://www.slideshare.net/Insolergy/solar-financing-options-introduction-to-ppa-solar-loans">https://www.slideshare.net/Insolergy/solar-financing-options-introduction-to-ppa-solar-loans</a>	<a href="https://www.youtube.com/watch?v=nd6TEZ7I3p4">https://www.youtube.com/watch?v=nd6TEZ7I3p4</a>	

Lecture 10: Renewable portfolio standards	<a href="https://emp.lbl.gov/sites/all/files/presentation-lbnl-3984e-ppt.pdf">https://emp.lbl.gov/sites/all/files/presentation-lbnl-3984e-ppt.pdf</a>	<a href="https://www.youtube.com/watch?v=HKwSSAIh4P8">https://www.youtube.com/watch?v=HKwSSAIh4P8</a>	
Lecture 11: and renewable energy certificates,	<a href="https://www.slideshare.net/jaspalhatia/renewable-energy-certificate">https://www.slideshare.net/jaspalhatia/renewable-energy-certificate</a>	<a href="https://www.youtube.com/watch?v=Zl7pc3rAE7I">https://www.youtube.com/watch?v=Zl7pc3rAE7I</a>	
Lecture 12: Marketing, Insurance.	<a href="https://www.slideshare.net/rajeevmbhandari/marketing-plan-solar-company">slideshare.net/rajeevmbhandari/marketing-plan-solar-company</a>	<a href="https://www.youtube.com/watch?v=38m2aQsgr8g">https://www.youtube.com/watch?v=38m2aQsgr8g</a>	<a href="https://www.bimabazaar.com/insurance-protection-for-solar-farms">https://www.bimabazaar.com/insurance-protection-for-solar-farms</a>

4-5-2020 to 20-05-2020

Module	Topics[1Hr Each]	PPT	Video Links	E-Materials
15EE81.3	Lecture 1 Revision( Automatic Generation Control (continued): Mathematical Model of Automatic Load Frequency Control)	<a href="https://www.slideshare.net/minalrade1/automatic-generation-control-161195588?qid=2dc855ff-03be-4ca7-b219-610de057632e&amp;v=&amp;b=&amp;from_search=5">https://www.slideshare.net/minalrade1/automatic-generation-control-161195588?qid=2dc855ff-03be-4ca7-b219-610de057632e&amp;v=&amp;b=&amp;from_search=5</a>	<a href="https://nptel.ac.in/courses/108/104/108104052/">https://nptel.ac.in/courses/108/104/108104052/</a>	<a href="https://drive.google.com/open?id=1MborzBrSAo61srYX7bNAkiIUPp9f6jxZo">https://drive.google.com/open?id=1MborzBrSAo61srYX7bNAkiIUPp9f6jxZo</a>
	Lecture 2 Question paper discussion(: Mathematical Model of Automatic Load Frequency Control)	<a href="https://www.slideshare.net/manash234/load-frequency-control-of-two-area-system">https://www.slideshare.net/manash234/load-frequency-control-of-two-area-system</a>	<a href="https://youtu.be/tUO3XPhCAX0">https://youtu.be/tUO3XPhCAX0</a>	<a href="https://drive.google.com/open?id=1kiEptKz2P83RsIG3CZIQzx7gdTJEgemA">https://drive.google.com/open?id=1kiEptKz2P83RsIG3CZIQzx7gdTJEgemA</a>
	Lecture 3 Question paper discussion(: Mathematical Model of Automatic Load Frequency Control)	<a href="https://www.slideshare.net/manash234/load-frequency-control-of-two-area-system">https://www.slideshare.net/manash234/load-frequency-control-of-two-area-system</a>	<a href="https://youtu.be/au7i8kH1TiQ">https://youtu.be/au7i8kH1TiQ</a>	<a href="https://drive.google.com/open?id=1sSjxU9Oy_N-LPCP2WuK-k7nTGkToi-wr">https://drive.google.com/open?id=1sSjxU9Oy_N-LPCP2WuK-k7nTGkToi-wr</a>
	Lecture 4 Revision ( AGC Controller)	<a href="https://www.slideshare.net/manash234/load-frequency-control-of-two-area-system">https://www.slideshare.net/manash234/load-frequency-control-of-two-area-system</a>	<a href="https://youtu.be/XdS_bKLka58">https://youtu.be/XdS_bKLka58</a>	<a href="https://drive.google.com/open?id=1VTEaUP53tl-DuD_PGDzXOT5RAjd2QJU">https://drive.google.com/open?id=1VTEaUP53tl-DuD_PGDzXOT5RAjd2QJU</a>
	Lecture 5 Revision(Proportional Integral Controller)	<a href="https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1">https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1</a>	<a href="https://youtu.be/MmGVuAXN-Y0">https://youtu.be/MmGVuAXN-Y0</a>	<a href="https://drive.google.com/open?id=1hgcdgW029rby7YxC_PEqPsTGN30BiOj">https://drive.google.com/open?id=1hgcdgW029rby7YxC_PEqPsTGN30BiOj</a>

	Lecture 6 Revision(Automatic Generation Control in interconnected Power system)	<a href="https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1">https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1</a>		<a href="https://drive.google.com/open?id=1liwwgJSU2YL7EOgcXjDSavilvNfEVbgh">https://drive.google.com/open?id=1liwwgJSU2YL7EOgcXjDSavilvNfEVbgh</a>
	Lecture 7 Revision( Tie - Line Control with Primary Speed Control)	<a href="https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1">https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1</a>		<a href="https://drive.google.com/open?id=1XYS2Mz02IMcYisD5MXauHpN2W-7gdmzj">https://drive.google.com/open?id=1XYS2Mz02IMcYisD5MXauHpN2W-7gdmzj</a>
	Lecture 8 Revision(Frequency Bias Tie - Line Control)	<a href="https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1">https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1</a>		<a href="https://drive.google.com/open?id=15Qairhz6uYjvNB8RExDD8IvlbLxiwirQ">https://drive.google.com/open?id=15Qairhz6uYjvNB8RExDD8IvlbLxiwirQ</a>
	Lecture 9 Revision(Frequency Bias Tie - Line Control)	<a href="https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1">https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1</a>		<a href="https://drive.google.com/open?id=1CzUwfxp9dPWx1yga-Le526jjM9269V6f">https://drive.google.com/open?id=1CzUwfxp9dPWx1yga-Le526jjM9269V6f</a>
	Lecture 10 - Revision(State-Space Models.)	<a href="https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1">https://www.slideshare.net/oureducation/presentation1-23309208?next_slideshow=1</a>		<a href="https://drive.google.com/open?id=1tW27eYVAKDyJG2Q_0VL-gGATplpB2-dh">https://drive.google.com/open?id=1tW27eYVAKDyJG2Q_0VL-gGATplpB2-dh</a>
	Lecture 11 - Revision(State-Space Model for Two - Area System)	<a href="https://www.slideshare.net/minalrade1/automatic-generation-control-161195588?qid=2dc855ff-03be-4ca7-b219-610de057632e&amp;v=&amp;b=&amp;from_s_earch=5">https://www.slideshare.net/minalrade1/automatic-generation-control-161195588?qid=2dc855ff-03be-4ca7-b219-610de057632e&amp;v=&amp;b=&amp;from_s_earch=5</a>	<a href="https://www.youtube.com/watch?v=VZdhSzhcB7w">https://www.youtube.com/watch?v=VZdhSzhcB7w</a>	<a href="https://drive.google.com/open?id=1Dx8pLycL8CH8SZWgnHWOiIVlek7gOHLB">https://drive.google.com/open?id=1Dx8pLycL8CH8SZWgnHWOiIVlek7gOHLB</a>
	Lecture 12 -Revision(Tie- Line Oscillations)		<a href="https://youtu.be/tUO3XPhCAX0">https://youtu.be/tUO3XPhCAX0</a>	<a href="https://drive.google.com/file/d/13U79fxe9J_5y_NDpKtNqH8Qnz_ZPY3fo/view?usp=sharing">https://drive.google.com/file/d/13U79fxe9J_5y_NDpKtNqH8Qnz_ZPY3fo/view?usp=sharing</a>
15EE82 .3	Synchronous Motor Drives - Operation from fixed frequency supply	<a href="https://www.slideshare.net/gurumoorthi2/synchronous-motor-drive">https://www.slideshare.net/gurumoorthi2/synchronous-motor-drive</a>		
	Numerical Problems			
	Starting of synchronous motor		<a href="https://www.youtube.com/watch?v=ILXzYm49Nkk">https://www.youtube.com/watch?v=ILXzYm49Nkk</a>	
	Problems			
	Problems			
	VTU Question paper Revision	<a href="http://www.pediawikiblog.com/2020/01/vtu-be-industrial-drives-">http://www.pediawikiblog.com/2020/01/vtu-be-industrial-drives-</a>		

		<a href="#">applications.html</a>		
	VTU Question paper Revision	<a href="http://www.pediawikiblog.com/2020/01/vtu-be-industrial-drives-and.html">http://www.pediawikiblog.com/2020/01/vtu-be-industrial-drives-and.html</a>		
	VTU Question paper Revision	<a href="http://www.pediawikiblog.com/2019/08/vtu-be-industrial-drives-and.html">http://www.pediawikiblog.com/2019/08/vtu-be-industrial-drives-and.html</a>		
	VTU Question paper Revision	<a href="http://www.pediawikiblog.com/2018/03/vtu-be-industrial-drives-and.html">http://www.pediawikiblog.com/2018/03/vtu-be-industrial-drives-and.html</a>		
	VTU Question paper Revision	<a href="http://www.pediawikiblog.com/2017/10/vtu-be-industrial-drives-and.html">http://www.pediawikiblog.com/2017/10/vtu-be-industrial-drives-and.html</a>		
15EE832.3(Revision)	Lecture 1- Site Assessment:	<a href="https://www.slideshare.net/EyadAdnan/conducting-a-site-assessment-and-pv-system-field-survey">https://www.slideshare.net/EyadAdnan/conducting-a-site-assessment-and-pv-system-field-survey</a>		
	Lecture 2- Solar Pathfinder,SolmetricSune ye,HORlcatcher,iPhone apps,Software packages,Available area,Portraitinstallation,Landscape installation,	<a href="https://www.slideshare.net/allisonbouwman/lesson-3-ppt-12962625">https://www.slideshare.net/allisonbouwman/lesson-3-ppt-12962625</a>	<a href="https://www.youtube.com/watch?v=NOLuKSVXWgU&amp;t=70s">https://www.youtube.com/watch?v=NOLuKSVXWgU&amp;t=70s</a>	
	Lecture 3- Revision - Site Assessment:	<a href="https://www.slideshare.net/EyadAdnan/conducting-a-site-assessment-and-pv-system-field-survey">https://www.slideshare.net/EyadAdnan/conducting-a-site-assessment-and-pv-system-field-survey</a>		
	Lecture -4- Revision - Solar Pathfinder,SolmetricSune ye,HORlcatcher,iPhone apps,Software packages,Available area,Portraitinstallation,Landscape installation,	<a href="https://www.slideshare.net/allisonbouwman/lesson-3-ppt-12962625">https://www.slideshare.net/allisonbouwman/lesson-3-ppt-12962625</a>	<a href="https://www.youtube.com/watch?v=NOLuKSVXWgU&amp;t=70s">https://www.youtube.com/watch?v=NOLuKSVXWgU&amp;t=70s</a>	

<p>Lecture 5- Energy efficiency initiatives, Health, safety and environment (HSE) risks, Local environment, Locating balance of system equipment, Site plan.</p>	<p><a href="https://www.slideshare.net/OhsasConsultant/ppt-presentation-on-hse-manual">https://www.slideshare.net/OhsasConsultant/ppt-presentation-on-hse-manual</a></p>	<p>-</p>	
<p>Lecture 6 - Design brief, Existing system evaluation, Choosing system components, Modules, Mounting structure,</p>	<p><a href="http://nordicindia.com/wp-content/uploads/2015/03/Nordic-Solar-Mounting-Structures.pdf">http://nordicindia.com/wp-content/uploads/2015/03/Nordic-Solar-Mounting-Structures.pdf</a></p>	<p><a href="https://www.youtube.com/watch?v=MDWJFG4sUe0">https://www.youtube.com/watch?v=MDWJFG4sUe0</a></p>	
<p>Lecture 7 - Inverters, Cabling, Voltage sizing, Current sizing, Monitoring, System protection, Over-current protection, Fault-current protection, Lightning and surge protection, Grounding/earthing, Mechanical protection, Array protection, Sub-array protection, Extra low voltage (ELV) segmentation.</p>	<p><a href="https://www.slideshare.net/JmvLps2/grounding-for-solar-pv-panels">https://www.slideshare.net/JmvLps2/grounding-for-solar-pv-panels</a></p>	<p><a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=2&amp;cad=rja&amp;uact=8&amp;ved=2ahUKEwi62dSt_LDoAhVxmeYKHZS-BesQFjABegQIDBAJ&amp;url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3D1ldNGpd7ebY&amp;usg=AOvVaw0NF839BOAGYcfajuQhuJRU">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=2&amp;cad=rja&amp;uact=8&amp;ved=2ahUKEwi62dSt_LDoAhVxmeYKHZS-BesQFjABegQIDBAJ&amp;url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3D1ldNGpd7ebY&amp;usg=AOvVaw0NF839BOAGYcfajuQhuJRU</a></p>	
<p>Lecture 8 - Introduction, Matching voltage specifications, Calculating maximum voltage, Calculating minimum voltage, Calculating the minimum number of modules in a string, Calculating the maximum voltage, Calculating the maximum number of</p>	<p><a href="http://www.scielo.org.co/scielo.php?script=sci_arttext&amp;pid=S0120-56092016000300008">http://www.scielo.org.co/scielo.php?script=sci_arttext&amp;pid=S0120-56092016000300008</a></p>	<p><a href="https://www.youtube.com/watch?v=O9-PuK9_WIk">https://www.youtube.com/watch?v=O9-PuK9_WIk</a></p>	

modules in a string, Calculating the inimum voltage, Calculating the minimum number of modules in a string,			
Lecture 9 - Matching current specifications, Matching modules to the inverter's power rating, Losses in utility- interactive PV systems, Temperature of the PV module ,Dirt and soiling, Manufacturer's tolerance, Shading	<u>1.</u> <a href="https://www.slideshare.net/ChalithaSenevirathna/pv-array-and-inverter-matching">https://www.slideshare.net/ChalithaSenevirathna/pv-array-and-inverter-matching</a> <u>2.</u> <a href="https://www.slideshare.net/gouravkumar220/solar-panel-technology-ppt">https://www.slideshare.net/gouravkumar220/solar-panel-technology-ppt</a>	<a href="https://www.youtube.com/watch?v=BRMLvzEgvcE">https://www.youtube.com/watch?v=BRMLvzEgvcE</a>	
Lecture 10 - Orientation and module tilt angle, Voltage drop Inverter efficiency, Calculating system yield.	<u>1.</u> <a href="http://www.greenerenergy.ca/PDFs/Tilt%20and%20Angle%20Orientation%20of%20Solar%20Panels.pdf">http://www.greenerenergy.ca/PDFs/Tilt%20and%20Angle%20Orientation%20of%20Solar%20Panels.pdf</a> <u>2.</u> <a href="https://www.slideshare.net/vishalgawhale1/solar-inverter-73025540">https://www.slideshare.net/vishalgawhale1/solar-inverter-73025540</a>	<u>1.</u> <a href="https://www.youtube.com/watch?v=1IL3u9peM7Y">https://www.youtube.com/watch?v=1IL3u9peM7Y</a> <u>2.</u> <a href="https://www.youtube.com/watch?v=zPuEbtlr-3k">https://www.youtube.com/watch?v=zPuEbtlr-3k</a>	