

Smart Grid Technologies

Assignments 5 & 6

Chapter no 5: Power Electronics in Smart Grid	
Unit Content: Introduction, Current source converters, Voltage source converters, Renewable energy generation, Fault current limiting, Shunt compensation, D-STATCOM, FACTS.	
1	Explain role and significance of power electronics in the smart grid.
2	What is the application of power electronic technology in a Smart grid?
3	Explain current source convertors in the smart grid.
4	Explain voltage source converters in the smart grid.
5	Comparison between the current source and voltage source converters.
6	Write a note on Renewable energy generation and its advantages in the smart grid.
7	What are the different Renewable energy sources used in smart grids?
8	What is the fault current limiting in a smart grid?
9	Explain shunt compensation.
10	What is D-STATCOM? Explain in Detail.
11	Explain FACTS in Smart Grid.
Chapter no 6: Distribution Management System	
Unit Content: Introduction, Data sources and associated external systems, Modelling and analysis tools, Energy management systems, and Visualization techniques.	
1	Explain the distribution management system in the smart grid.
2	What data sources and associated external systems?
3	Explain the modelling and analysis tool in Distribution Management System.
4	Explain Energy Management System (EMS) in the smart grid.
5	What are the applications of an Energy Management System?
6	Explain visualisation Techniques in smart grid.