Chapter 1 : Switched Voltage Regulators 1-1 to 1-62

Syllabus : Review of basic dc-dc voltage regulator configurations- Buck, Boost, Buck-boost converters, Flyback and Forward converters, Other converter configurations like Half bridge, Full bridge configurations, Push pull converter, C'uk converter, Sepic converter, Design criteria for SMPS, Multi output switch mode regulators, Design of inductor and high frequency transformer.

Syllabus : Introduction, Need of resonant converters, Classification of resonant converters, Load resonant converters, Resonant switch converters, Zero voltage switching dc-dc converter, Zero current switching dc-dc converter, Clamped voltage topologies.

Syllabus : Need for multi-level inverters, Concept of multi-level, Topologies for multi-level: Diode Clamped, Flying capacitor and Cascaded H-bridge multilevel Converters configurations; Features and relative comparison of these configurations, Applications, Introduction to Carrier based PWM technique and SVPWM for Multilevel converters.

Syllabus : Introduction, Operation of 12-pulse converter as receiving and sending terminals of HVDC system, Equipment required for HVDC System and their significance, Comparison of AC and DC transmission, Control of HVDC transmission.

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