

AMET-16: POWER ELECTRONICS AND DEVICES

1 : POWER SEMICONDUCTOR DEVICE : Introduction, Thyristorised Power Controllers, Classification Of Power Controllers, Characteristics And Specification Of Power Devices, Comparison Of Power Devices

2 : THYRISTOR : Introduction, Modes Of Operation, Dynamic Characteristics, Thyristors Gate Characteristics, Rating And Protection, Firing Circuits, Other Thyristors

3 : TURN – OFF METHOD : Introduction, Natural Commutation (Class F : Line Commutation), Forced Commutation, Self Commutation By Resonating Load (Class A), Impulse Commutation (Class D : Auxiliary Voltage Commutation), Complementary Commutation (Class C), External Pulse Commutation (Class E)

4 : CONTROLLED RECTIFIERS : Introduction, Principle Of Phase Controlled Converter Operation, Single Phase Semi Converters (Half Bridge Converter), Single Phase Full Converters, Three Phase Half Wave Converters, Three Phase Semiconverters, Three Phase Full Converters

5 : INVERTERS : Introduction , Principle, Performance Parameters, Single Phase Bridge Inverter, Voltage Control Of Single Phase Inverters, Harmonic Reduction, Current Source Inverters

6 : CHOPPERS : Introduction, Principle Of Step Down Operation, Step Down Chopper With RL Load, Principle Of Step Up Operation, Performance Parameters, Chopper Classification, Effects Of Source And Load Inductance, Applications Of Choppers

7 : AC VOLTAGE CONTROLLER : Introduction, Principle Of On – Off Control, Principle Of Phase Control, Single Phase Controller With Resistive Loads (Bidirectional Controllers), Single Phase Controllers With Inductive Loads, Merits, Demerits And Applications Of Ac Voltage Controllers