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**Question Paper Code: 55012**

Ph.D COURSE WORK EXAMINATION, MAY 2018

Elective

Course work

15PPE512– SWITCHED MODE POWER CONVERSION

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Analyze the DC inductor and capacitor design considerations. CO1- Ana (20)  
Or  
(b) A load comprises of resistance and capacitance connected in series is fed from voltage source of  $V_m \sin \omega t$  through a diode. Analyze the circuit and draw the waveforms. CO1- Ana (20)
2. (a) Discuss about the operation of Step down converter in continuous conduction mode and derive an expression for the ripple voltage. CO2- Ana (20)  
Or  
(b) Discuss the voltage mode control principles of fly back converter. CO2- Ana (20)
3. (a) Explain in detail about current regulated modulation. CO3- U (20)  
Or  
(b) Explain the need of Snubber circuit in converter application and also explain overvoltage snubber. CO3- U (20)
4. (a) Briefly explain about control scheme for resonant converters with help of diagram. CO4- U (20)  
Or  
(b) Explain the voltage commutation in Type-A chopper with neat figures and derivations. CO4- U (20)

5. (a) Briefly explain the working of half bridge McMurray inverter. CO5-U (20)

Or

(b) Explain the operation of three phase Inverter with a neat diagram. CO5-U (20)

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