PRN:		Course Code :	ECE307R1

Third Year **B. Tech** End Semester Examination Summer 2023

Power Electronics

Day and Date: Monday, 19/06/2023 Max Marks: **100**

Time : 10.30 am to 1.30 PM Duration: **03**hrs

Instructions:All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Draw the construction and characteristics of MOSFET	08	L2	CO1
	b)	Explain various Current and voltage protection circuit for SCR	08	L1	CO1
		OR			
	b)	Draw the construction and reverse recovery characteristics of power diode	08	L1	CO1
Q.2		**Attempt the following**			
	a)	Explain Ramp and pedestal firing circuit for triggering SCR	08	L3	CO2
	b)	State various commutation method and Explain ClassCcommutation . Using neat circuit diagram	08	L2	CO2
		OR			
	b)	Explain class B & Class D turn off methods of SCR. Using neat circuit diagram	08	L2	CO2
Q.3		**Attempt any two from the following**			
	a)	With neat diagram Explain three phase full controlled full wave rectifier with R .	08	L4	CO3
	b)	Explain single phase half wavecontrolled bridge rectifier R –L load	08	L4	CO3
	c)	Explain three phase half wavecontrolled bridge rectifier R load	08	L4	CO3
Q.4		**Attempt any two from the following**			
	a)	Discuss various control technique of inverter	08	L3	CO4
	b)	Explain in detail	08	L2	CO4
		i) Multiple PWM			
		ii) Quasi Square wave			
	c)	With neat diagram explain working single phase cyclo-converter	08	L2	CO4
Q.5		**Attempt any Two of the following**			
	a)	Explain principle of Step-Down chopper.	09	L3	CO5
	b)	Explain AC chopper in detail	09	L2	CO5
	c)	Explain principle of Multi-phase chopper	09	L2	CO5
Q.6		**Attempt any Two of the following**			
	a)	Write short on SMPS	09	L1	CO6
	b)	What is inductive heating Explain in detail	09	L2	CO6
	C)	Write short note on PLC Architecture.	09	L2	CO6

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