Q.P. Code: 16EE219 **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Supplementary Examinations July-2022

POWER ELECTRONICS

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	**a**	Explain the switching characteristics of BJT.	**L1**	**6M**
	b	Write short note on Turn on methods of SCR.	**L2**	**6M**
		OR		
2	**a**	Describe input and transfer characteristics of an IGBT.	**L1**	**8M**
	b	Define Latching current and Holding current.	**L2**	**4M**

UNIT-II

3		Explain the operation of single phase full wave midpoint converter with RL load. Alsoderive the output voltage and output current equations.	**L3**	**12M**
		OR		
4		What is a freewheeling diode? Draw single phase semi converter with RLE load withfreewheeling diode and explain the operation with necessary output waveforms.	**L3**	**12M**

UNIT-III

5	**a**	Give the difference between discontinuous mode and continuous mode of operation.	**L1**	**6M**
	b	Give the difference between midpoint and bridge type converters	**L1**	**6M**
		OR		
6		Explain the operation of three phase dual converter with non- circulating current type.	**L3**	**12M**

UNIT-IV

7	**a**	What is meant by ac voltage controllers and what are the different types?	**L2**	**8M**
	b	List the applications of ac voltage controller.	**L1**	**4M**
		OR		
8		Explain about the 1 – Ø AC voltage controller with RL loads with neat diagram	**L3**	**12M**

UNIT-V

9		Describe different types of pulse width modulation techniques (PWM) inverter.	**L3**	**12M**
		OR		
10		Describe the working of single phase full bridge inverter with neat waveforms.	**L3**	**12M**

*** END ***