Q.P. Code: 18EE2114 **R18**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY::PUTTUR
(AUTONOMOUS)
M.Tech I year II Semester Regular Examinations June 2019
SWITCHED MODE AND RESONANT CONVERTERS
(Power Electronics)

Time: 3 hours **Max. Marks:60**

(Answer all Five Units 5×12=60 Marks)

UNIT I

1	**a**	Write short notes on the buck switching regulator	**4M**
	b	Explain the modes of operation in boost switching regulator?	**8M**
		OR	
2	**a**	Explain the basic operation of push-pull converter with necessary waveforms?	**8M**
	b	Write short notes on forward converter flux imbalance?	**4M**
		UNIT II	
3	**a**	Explain the half-bridge converter topology?	**6M**
	b	Discuss about the full-bridge magnetics?	**6M**
		OR	
4	**a**	Explain the flux-imbalance problem in bridge transformer?	**6M**
	b	Write short notes on current-mode control in SMPS?	**6M**
		UNIT III	
5	**a**	What is a resonant converter and Explain?	**6M**
	b	Explain zero voltage switching clamped voltage topologies?	**6M**
		OR	
6	**a**	Discuss about Fly back converter discontinuous mode of operation?	**6M**
	b	Compare the properties of voltage-fed and current-fed topologies?	**6M**
		UNIT IV	
7	**a**	Explain in detail about the basic voltage PWM controller?	**6M**
	b	What are the deficiencies and limitations of current mode control?	**6M**
		OR	
8	**a**	Explain Slope Compensation to Correct Problems in Current Mode control method?	**6M**
	b	Describe typical Current Mode PWM Control?	**6M**
		UNIT V	
9	**a**	Explain about Voltage Mode SMPS Transfer Function?	**6M**
	b	Explain about Radiated Emission Mechanisms in SMPS?	**6M**
		OR	
10	**a**	Discuss about Power Circuit Layout for minimum EMI in SMPS?	**6M**
	b	Write a brief note on Effect of EMI Filter on SMPS Control?	**6M**

*****END*****