



ELECTRICAL AND ELECTRONICS ENGINEERING

QUESTION BANK

Course Title : POWER ELECTRONICS

Course Code : 23EE501

Regulation : NR23

UNIT-IV

AC-DC Inverters

S.No	Questions	BT	CO	PO	
Part - A (Short Answer Questions)					
1	What are the applications of an inverter?	L1	CO4	PO1	
2	What is meant by forced commutation?	L1	CO4	PO1	
3	Why thyristors are not preferred for inverters?	L1	CO4	PO1	
4	Why diodes should be connected in ant parallel with the thyristors in inverter circuits?	L1	CO4	PO1	
5	How is the inverter circuit classified based on commutation circuitry?	L1	CO4	PO1	
6	What is meant by PWM control?	L1	CO4	PO1	
7	What are the advantages of PWM control?	L1	CO4	PO1	
8	What are the disadvantages of the harmonics present in the inverter system?	L1	CO4	PO1	
9	What are the methods of reduction of harmonic content?	L1	CO4	PO1	
10	What are the different types of PWM methods for voltage control within inverter?	L1	CO4	PO1	
Part - B (Long Answer Questions)					
11	a)	With a neat sketch and output voltage waveforms, explain the working of three phase bridge inverter in 180 degree mode of operation.	L1	CO4	PO1
	b)	Describe the working of a 1- ϕ full bridge inverter using R load with relevant circuit and waveforms.	L2	CO4	PO1, PO2
12	a)	With a neat sketch and output voltage waveforms, explain the working of three phase bridge inverter in 120 degree mode of	L1	CO4	PO1

		operation.			
	b)	Describe the working of a 1- ϕ half bridge inverter using RL load with relevant circuit and waveforms.	L1	CO4	PO1
13	a)	What is PWM? List the various PWM techniques and explain any one of them	L1	CO4	PO1
	b)	Describe the working of a 1- ϕ full bridge inverter using RL load with relevant circuit and waveforms.	L1	CO4	PO1
14	a)	Explain the following PWM techniques used in inverter. a. Sinusoidal PWM b. Multiple PWM.	L1	CO4	PO1
	b)	Describe the working of a 1- ϕ half bridge inverter using R load with relevant circuit and waveforms.	L1	CO4	PO1
15	a)	Describe the working of a 1- ϕ half bridge inverter using R & RL load with relevant circuit and waveforms.	L1	CO4	PO1
	b)	What is PWM? List the various PWM techniques and explain any one of them	L1	CO4	PO1
16	a)	Describe the working of a 1- ϕ full bridge inverter using R & RL load with relevant circuit and waveforms.	L1	CO4	PO1
	b)	Explain the following PWM techniques used in inverter. a. Sinusoidal PWM b. Multiple PWM.	L1	CO4	PO1