С

Reg. No. :

Question Paper Code: 55008

M.E. DEGREE EXAMINATION, MAY 2018

Elective

Power Electronics and Drives

15PPE508 – ELECTRIC POWER QUALITY

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A $(5 \times 1 = 5 \text{ Marks})$

1.	The power quality cu	CO1- R			
	(a) CBEMA	(b) ITI	(c) BOTH A & B	(d) VI CURVE	
2.	Application of pulse modulated devices (
	(a) water heater	(b) Electric arc furnace	(c) Electric heater	(d) All the above	
3.	In the unbalance phase	CO3- R			
	(a) $a + a^2 = 1$	(b) $1+a+a^2=1$	(c) $1+a+a^2=0$	(d) $1+a+a^2=2$	
4.	The compensator supplies the entire imaginary power requirement of the			CO4 -R	
	(a) Source	(b) Load	(c) Voltage	(d) Frequency	
5.	The DVR is capable	CO5- R			
	(a) Real	(b) Reactive	(c) Both	(d) None of these	

PART – B (5 x 3=15Marks)

6.	What is the meaning of power quality disturbances?			CO1-U	
7.	What is a complex power?			CO2-U	
8.	Define voltage sag (or) dip reduction?			CO3-U	
9.	Define the factor.			CO4-U	
10.	Draw the DVR Structure.			CO5-U	
		PART – C (5 x 16= 80Marks)			
11.	(a)	Define power quality? Explain the reasons for increased concern in power quality.	CO1- U	(16)	
		Or			
	(b)	Explain in detail about power quality problem.	CO1- U	(16)	
12.	(a)	Discuss in detail about sinusoidal voltage source supplying linear load current.	CO2- U	(16)	
Or					
	(b)	Explain in detail about three Non-sinusoidal balanced systems.	CO2- U	(16)	
13.	(a)	Derive the symmetrical components of phasor quantities? Discuss.	CO3-App	(16)	
		Or			
	(b)	Derive the instantaneous real and reactive power components.	CO3-App	(16)	
14.	(a)	Demonstrate DSTATCOM Structure. Or	CO4 -Ana	(16)	
	(b)	Discuss in detail about ideal three phase shunt compensator structure.	CO4 -Ana	(16)	
15.	(a)	Explain Series Active Filter.	CO5-Ana	(16)	
Or					
	(b)	Describe about rectifier supported DVR with Example.	CO5-U	(16)	