

Reg.No. _____

Karunya**End Semester Examination – Nov/Dec – 2016****Semester 2016-17
ODD****Code 14EE2016****Duration 3hrs****:****:****Sub. Power System Protection and****Max. 100****Name : Switchgears****marks :****ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Explain fault current calculation using symmetrical components.	CO1	14
	b.	What is CT and PT and state its application in protection scheme.	CO1	6
	c.			
	d.			
	e.			
(OR)				
2.	a.	Explain the nature and causes of faults.	CO1	12
	b.	Discuss per unit representation	CO1	4
	c.	Give the various types of fault	CO1	4
	d.			
	e.			
3.	a.	With the help of a neat diagram explain about the construction and working of Induction type directional power relay.	CO1	20
	b.			
	c.			
	d.			
	e.			
(OR)				
4.	a.	Reproduce the mathematical expressions of distance protection and also explain the Function of admittance relay.	CO2	20
	b.			
	c.			
	d.			
	e.			
5.	a.	Explain the operation principle, construction and working of bulk oil circuit breaker elaborately. Also give the advantages of oil circuit breakers.	CO2	20
	b.			
	c.			
	d.			
	e.			

	e.			
(OR)				
6.	a.	Explain the operation principle, construction and working of a SF6 circuit breaker elaborately. Also give the advantages of SF6 gas	CO2	20
	b.			
	c.			
	d.			
	e.			
7.	a.	Discuss about the lightning phenomenon with a suitable diagram.	CO2	20
	b.			
	c.			
	d.			
	e.			
(OR)				
8.	a.	Explain the operation of any three types of lightning arresters with neat sketches.	CO2	20
	b.			
	c.			
	d.			
	e.			
		<u>Compulsory:</u>		
9.	a.	What is insulation level? Discuss in detail insulation levels of various substation equipments.	CO3	20
	b.			
	c.			
	d.			
	e.			

ALL THE BEST

Course outcome.

1. Choose the appropriate relay for the application.
2. Design Protective schemes for various Electrical apparatus.
3. Analyze the testing of circuit breakers.