

Reg.No. \_\_\_\_\_



**Karunya UNIVERSITY**

(Karunya Institute of Technology & Sciences)  
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

**Code : 14EE2036**  
**Sub. Name : Smart Grid**

**Semester : 2016-17 ODD**  
**Duration : 3hrs**  
**Max. marks : 100**

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Describe the various communication channels used in smart grid communication	CO2	16
	b.	List the characteristics and benefits of smart grid	CO1	4
(OR)				
2.	a.	What are the technologies required in the smart grid and brief about each technology used in smart grid?	CO1	16
	b.	Differentiate various communication technologies used in smart grid	CO2	4
3.		Write short note on (i) Substitution cipher (ii) Public key encryption	CO2	20
(OR)				
4.		Brief about Authentication and Digital signature used in smart grid security	CO2	20
5		Discuss about the functions of SCADA and its challenges and threats	CO3	20
(OR)				
6.		Draw the architecture of WAMS and illustrate its functional blocks	CO3	20
7.	a.	What is CIS?. List out various application of CIS and its significance	CO2	16
	b.	Interpret Demand side management	CO1	4
(OR)				
8.		Draw the layout of the smart metering communication infrastructure and illustrate about various protocol used in smart metering.	CO2	20
<b><u>Compulsory:</u></b>				
9.	a.	List out the grid connected issues due to the penetration of renewable energy generation in existing power system.	CO3	14
	b.	Brief about the future aspects of smart grid	CO3	6

ALL THE BEST