

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Sixth Semester

Electrical and Electronics Engineering

EE3007 – Smart Grid

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	What is smart substation?	RE	1	2
2.	Classify the characteristics of an ideal smart grid.	UN	1	2
3.	Explain the AMI standards.	UN	2	2
4.	List the applications of phasor measurement unit.	UN	2	2
5.	What is sub-station automation?	RE	3	2
6.	What are the different types of smart grid transmission technologies?	RE	3	2
7.	Compare the benefits of voltage control with VAR control.	UN	4	2
8.	Demonstrate how can DMS be used to improve fault detection?	UN	4	2
9.	List the requirements for a private wireless WAN?	RE	5	2
10.	Define cloud computing in smart grid?	RE	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Identify the need of smart grid and explain neatly with detailed reasons.	AP	1	13
	Or			
	b Compare and contrast the present development and international policies in smart grid.	AN	1	13
12.	a Examine the functions of AMI protocols Standards and its initiatives.	AN	2	13
	Or			
	b Explain the phasor measurement unit application for monitoring and protection with neat diagram.	AP	2	13
13.	a Organize clearly the advances in energy management systems for the smart grid.	AP	3	13
	Or			
	b Analyze the wide area monitoring and protection and control.	AN	3	13

14.	a	Recall the working of Volt/VAR control and fault detection in smart grid.	UN	4	13
		Or			
	b	Explain how do electric vehicles help to reduce peak demand and improve the efficiency of the grid?	UN	4	13
15.	a	Illustrate the broadband over power line (BPL) for smart grid.	AP	5	13
		Or			
	b	Analyze the basics of web service and cyber security for smart grid.	AN	5	13

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	Evaluate the international policies in smart grid and explain the national and international initiatives in smart grid.	EV	1	15
		Or			
	b	Integrate legacy transmission and distribution automation and also explain the advancing smart grid standards.	CR	5	15