

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APR/MAY 2026*****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 grid?	RE	1	2
2.	Distinguish between national and international initiatives in smart grid.	UN	1	2
3.	Define the AMI standards.	RE	2	2
4.	List the applications of phasor measurement unit.	UN	2	2
5.	What is Smart sub-station Automation?	RE	3	2
6.	What are the future trends in smart grid transmission technologies?	UN	3	2
7.	Compare the benefits of Voltage and Var Control.	UN	4	2
8.	Define the outage management.	RE	4	2
9.	What is local area network?	RE	5	2
10.	List the cyber security risks for smart grid.	UN	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Discuss the evolution of electric grid	RE	1	8
	ii Analyze the need of smart grid and Explain neatly with detailed reasons.	AN	1	8
	Or			
	b i Compare conventional grid & smart grid.	UN	1	8
	ii Illustrate the Present development in smart grid	AP	1	8
12.	a i Explain in detail about the evolution of meter reading.	UN	2	8
	ii Generalize the AMI needs in the smart grid system.	RE	2	8
	Or			
	b i Illustrate the advanced metering infrastructure (AMI) drivers and benefits.	AP	2	8
	ii Explain the phasor measurement unit application for monitoring and protection.	UN	2	8
13.	a i Write short notes on substation automation.	UN	3	8
	ii Illustrate the advances in energy management systems for the smart grid.	AP	3	8
	Or			
	b i Analyze the wide area monitoring and protection and control.	AN	3	8

	ii	What are the challenges and opportunities for future of smart grid transmission technologies?	RE	3	8
14.	a i	Discuss the advanced distribution management systems in smart grid.	UN	4	8
	ii	Summarize the role of transmission systems in smart grid.	AP	4	8
	Or				
	b i	How does DMS help to improve the efficiency and reliability of the grid?	AN	4	8
	ii	Estimate the isolation and service restoration and phase shifting transformers.	UN	4	8
15.	a i	Generalize the networking fundamentals for smart grid.	RE	5	8
	ii	Illustrate the broadband over power line (BPL) for smart grid.	AP	5	8
	Or				
	b i	Describe the CLOUD computing to make smart grids smarter.	UN	5	8
	ii	How to integrate legacy transmission and distribution automation and also explain the advancing smart grid standards	AN	5	8
