SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR
Electrical Engineering Department
B. Tech, Semester-II

Subject: SMART GRID TECHNOLOGY
(ELECTIVE-II) Course Code: EL423.4-21

Date 6/04/23

Question Bank:

Unit 1: The Smart Grid:

Introduction, Why implement the Smart Grid now?, What is the Smart Grid? Overview of how Indian power market is organized, operated and challenges being faced, Overview of the technologies required for the Smart Grid.

Q.N.	Questions
1	What is the Smart Grid?
2	Why implement the Smart Grid ?,
3	Differentiate between conventional grid and smart grid.
4	Write a short note on “issues and challenges in smart grid implementation.”
5	Explain the technologies required for the smart grid.
6	Explain the overview of how Indian power market is organized.
7	Write the different characteristics of smart grid
8	Explain the different characteristics and features of the smart grid.
9	What are the different benefits of a smart grid?
10	Explain the function of smart grid components

Unit 2: Smart Grid Technologies:

Smart meters: An overview of the hardware used, Evolution of electricity metering, Key components of smart metering, Automatic Meter Reading(AMR), Demand-side integration, Substation automation equipment, Switching techniques, Communication channels, The ISO/OSI model, Communication technologies, Geographic Information System(GIS), Intelligent Electronic Devices(IED) & their application for monitoring &protection, Smart storage like Battery, Phase Measurement Unit(PMU).

Q.N.	Questions
1	What are smart meters?
2	Explain the function of smart energy meters in the smart grid.
3	Explain smart meters. Give its function when deployed in the domestic sector.
4	Give a list of smart appliances & explain how they can enhance the system.

5	Explain how smart appliances can be part of a smart grid.
6	How advanced metering infrastructure is going to help the system?
7	What are the different communication technologies in smart grid?
8	How does Automatic Meter Reading (AMR) work? Explain its block diagram and advantages of AMR
9	Explain Intelligent Electronic Devices(IED) & their application for monitoring & protection of smart grid.
10	Explain the demand response issue.
11	What are different energy storage devices? Explain in details.
12	Explain any two-energy storage equipment’s (device) in details?
13	What do you mean Real Time Pricing? Why it should be implemented?
14	Define real-time pricing & explain its necessity.
15	Comparison between smart metering and Conventional metering
16	Explain the role of Phasor Measurement Unit in smart grid.