SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)
Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
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Accredited by NBA (B.E - CSE, EEE, ECE, Mech & B.Tech.IT)

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

QUESTION BANK

19EEE308 - SMART GRID

UNIT III - DISTRIBUTED ENERGY SOURCES AND MICROGRID

Part A (2 Marks)

1. Define distributed energy resources.
2. What is a microgrid?
3. What are the main components of a microgrid?
4. Define islanding in a microgrid.
5. What are the advantages of microgrids?
6. What is the role of renewable energy sources in a microgrid?
7. Mention two types of energy storage systems used in microgrids.
8. How do fuel cells work in distributed energy systems?
9. Define grid integration of distributed energy resources.
10. What are thin-film solar cells?
11. How do microturbines work in microgrids?
12. What are the control challenges in microgrids?
13. Define variable speed wind generators.
14. What is the role of power electronics in microgrids?
15. How do plug-and-play systems work in microgrids?
16. What is the importance of demand-side management in microgrids?
17. Define cogeneration in microgrid applications.
18. What are organic solar cells?
19. Mention two key policies for microgrid development.
20. What is hybrid power generation in microgrids?

Part B (16 Marks)

1. Explain the concept of distributed energy resources and their role in Smart Grids.
2. Discuss the structure and function of a microgrid with a suitable diagram.
3. Explain different renewable energy sources used in microgrids.
4. Describe grid integration of distributed energy resources.
5. Discuss the various control strategies used in microgrids.
6. Explain the working and applications of microturbines in microgrids.
7. Describe the function and applications of fuel cells in microgrid environments.
8. Explain the significance of energy storage systems in microgrids.
9. Discuss the role of power electronics in microgrids.
10. Explain demand-side management techniques in microgrids.