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Question Paper Code : 50523

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023.

Seventh / Eighth Semester

Electrical and Electronics Engineering

EE 8019 — SMART GRID

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is a smart substation?
2. List the opportunities related to smart grid.
3. Define outage management.
4. Identify the faults in distribution systems.
5. Give the applications of Phasor Measurement Unit.
6. What is the significance of IED?
7. What is EMC in a smart grid?
8. What is a power quality audit?
9. What is CLOUD Computing in the smart grid?
10. What is HAN?

PART B — (5 × 13 = 65 marks)

11. (a) Explain in detail the architecture of the smart grid.

Or

- (b) Summarize the smart grid drivers and functions.

12. (a) Discuss the advanced distribution management system in the smart grid.

Or

(b) Explain in detail about the Plug-in Hybrid Electric Vehicles (PHEV).

13. (a) Generalize the AMI needs in the smart grid system.

Or

(b) Explain the IED application for monitoring and explain its protection aspects.

14. (a) Summarize the energy storage technologies for the smart grid.

Or

(b) Describe web-based power quality monitoring in a smart grid.

15. (a) Explain the role of WAN in the smart grid.

Or

(b) Illustrate the Broadband over Power Line (BPL) for the smart grid.

PART C — (1 × 15 = 15 marks)

16. (a) Generalize the International policies in smart grid and explain the National and international Initiatives in smart grid.

Or

(b) Integrate legacy transmission and distribution automation and also explain the advancing smart grid standards.