Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 52932

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Sixth Semester

Electrical and Electronics Engineering

EE 6002 — POWER SYSTEM TRANSIENTS

(Also Common to PTEE 6002 — Power System Transients for B.E. Part Time – Fifth Semester – Electrical and Electronics Engineering)

(Regulation 2014)

Time : Three hours | Maximum : 100 marks

(Codes/Tables/Charts to be permitted, if any may be indicated)

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State one cause and effect of transient in a transmission line.
2. Compare the output response of a sine wave in a Lead and Lag network.
3. What is current chopping?
4. How is ferro resonance mitigated?
5. What is charging of thunder clouds?
6. Give the significance of tower footing resistance?
7. Define lumped parameters.
8. What are the principles observed in lattice diagram?
9. Define kilometric fault.
10. What are the applications of EMTP?

PART B — (5 × 13 = 65 marks)

11. (a) Discuss in detail about the adverse effect of transients on power systems.

Or

(b) Explain why transients affect the power quality in a system how protection devices perform for power stability. (7 + 6)

12. (a) Compare (6 + 7)

(i) Resistance switching and

(ii) Capacitive switching.

Or

(b) Explain about multiple restriking transients stating its cause and effects. (6 + 7)

13. (a) What are the theories of charge formation in the clouds? Explain them in detail.

Or

(b) Discuss the interaction between lightning and power system.

14. (a) Explain the transient response of a system with series and shunt distributed line.

Or

(b) Explain the Bewely's lattice diagram.

15. (a) Explain in detail about line dropping and load rejection.

Or

(b) Explain about the voltage transients on closing and reclosing lines.

PART C — (1 × 15 = 15 marks)

16. (a) Explain the double frequency transients with necessary diagrams. (15)

Or

(b) Explain the characteristics of earthing and protection devices to protect grid from Lightning and transients. (15)

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