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

Question Paper Code : 50493

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017
Seventh Semester
Electrical and Electronics Engineering
EE 6701 : HIGH VOLTAGE ENGINEERING
(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. What are the causes for power frequency over voltage in power system ?
2. What is isokeraunic level ?
3. What are electronegative gases ? Give example.
4. What are pure liquid dielectrics ?
5. What are the advantages of Vande-Graff generator ?
6. Draw the standard impulse waveform.
7. What are the advantages of CVT measurement in HVAC ?
8. What type of measuring devices preferred for measurement of high frequency impulse current ?
9. Define disruptive discharge voltage.
10. What is meant by insulation coordination ?

PART – B (5×16=80 Marks)

11. a) Explain in detail about the protection of transmission lines against over voltage. (16)

(OR)

b) i) Explain the theories of charge formation in clouds. (10)

ii) Derive the mathematical model for lightning discharges. (6)

12. a) Explain in detail about the various mechanisms of breakdown in vacuum. (16)

(OR)

b) Explain the various theories of breakdown mechanism of the commercial liquid dielectrics. (16)

13. a) What is Tesla coil ? How is damped high frequency oscillations obtained from a Tesla coil ? (16)

(OR)

b) Describe with a neat sketch the working of a Vande Graff generator. What are the factors that limit the maximum voltage obtained ? (16)

14. a) Explain the construction features and operation of generating type voltmeter. (16)

(OR)

b) Explain the operation of Electrostatic voltmeter with neat sketch and give its advantages and limitations. (16)

15. a) Explain the direct and synthetic testing of isolators and circuit breakers in detail. (16)

(OR)

b) Explain in detail about the insulation coordination. (16)