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Question Paper Code: 36303

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Sixth Semester

Electrical and Electronics Engineering

01UEE603 - HIGH VOLTAGE ENGINEERING

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. State the parameters and characteristics of lightning strokes.
2. List the sources of switching surges.
3. Define intrinsic electric strength of a solid dielectric.
4. Draw cascaded voltage doubler circuit.
5. Write the electrical properties of liquid dielectric.
6. What are the impulse wave specifications?
7. Comment on Tesla coil.
8. What are the advantages of generating voltmeter?
9. Point out the standard specifications of impulse voltage wave.
10. Draw the waveform of standard impulse with specifications.

PART - B (5 x 16 = 80 Marks)

11. (a) Enumerate the different theories of charge formation in thunder clouds. (16)

Or

(b) What are the causes for power frequency over voltages? How they are controlled in power system? (16)

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

Or

(b) Describe conduction and breakdown in pure liquid. (16)

13. (a) Derive the expression for ripple and regulation in cascaded voltage multiplier circuits. (16)

Or

(b) With diagram describe working of tripping and control of impulse generator. (16)

14. (a) With diagram explain how to measure DC high voltage using series resistance micro ammeter and resistance potential divider? (16)

Or

(b) With diagram explain horizontal arrangement of sphere gap for measurement of high DC, AC and impulse voltages. (16)

15. (a) Describe various type of test carried over insulator. (16)

Or

(b) Explain various types of high voltage test on transformer. (16)