

Code: EE6T4

III B.Tech - II Semester – Regular Examinations – May 2015

**HIGH VOLTAGE ENGINEERING
(ELECTRICAL & ELECTRONICS ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. Explain with neat sketches cockroft- walton voltage multiplier circuit. Explain clearly its operation when the circuit is (i) unloaded (ii) loaded. 14 M
2. Write short notes on 14 M
 - a. Impulse current generator
 - b. Standard specifications of impulse voltages
 - c. Effect of source inductance in impulse generator circuit.
3. What is a capacitive voltage transformer? With a neat phasor diagram, explain how a tuned CVT can be used for high HV measurements. 14 M
4. What are the different types of resistive shunts used for impulse current measurements? Explain in detail. 14 M
5. Explain the Townsend's criterion of breakdown in gases. What are the limitations of Townsend's theory? 14 M

6. Explain the different mechanisms by which breakdown occurs in solid dielectrics in practice. 14 M
7. Briefly discuss the various high voltage tests conducted on circuit breakers. 14 M
8. Explain the principle of insulation coordination in EHV systems. 14 M