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BE - sem-VI - a. Id. - Electrical - H.V.E

25/5/16

QP Code : 29820

Duration : 3 Hrs.

(Old Course)

Total Marks : 100

Note :-

1. Q No. 1 is compulsory.
2. Solve any four questions from remaining six questions.
3. Assume suitable data and state it clearly.
4. Each question is for 20 marks.

- Q.1 a) Discuss the various mechanisms of vacuum breakdown. (10)
b) Explain the various theories that explain breakdown in commercial liquid dielectrics.? (10)
- Q.2 a) What do you understand by 'Intrinsic Strength' of a solid dielectric? How does breakdown occur due to electrons in a solid dielectric? (10)
b) With neat diagram, Explain the basic Principle of VAN-DE Graff's generator. (10)
- Q.3 a) Explain the experimental set up for the measurement of pre-breakdown currents in a gas? (10)
b) Derive an expression for ripple voltage of a Multistage Cock Croft- Walton Circuit. (10)
- Q.4 a) Explain the different methods of producing switching impulses in test laboratories. (10)
b) Explain how sphere gap measurement can be used for the effect of voltage measurement. (10)
- Q.5 a) Explain different types of rectifier circuits for producing high DC voltage with suitable waveforms. (10)
b) List out the common test facilities available in high voltage laboratories. (10)
- Q.6 a) What is a Tesla coil? How are damped high frequency oscillations obtained from Tesla coil. (10)
b) Explain the methods of controlled tripping of impulse generators. Why is controlled tripping necessary? (10)
- Q.7. Write short notes on
a) Dielectric loss measurement (6)
b) Testing of Circuit breakers and Isolators (7)
c) Factors under consideration before designing HV Lab. (7)

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