

EX-7201

B.E. VII Semester

Examination, December 2014

High Voltage Engineering

(Elective) Time: Three Hours

Maximum Marks: 70

Note: 1. Attempt All questions. 2. All questions carry equal marks.

1.a) Describe the advantages of transmitting electrical power at high voltages. Mtf What is need for generating high voltages in laboratory.

OR

2.a) Explain the important application of high voltages.

b) Describe different medical and Industrial applications of high voltages.

3. a) Discuss the various factors which affect the breakdown of gases. State and explain paschen's law. How do you account for the minimum voltage for break down under a given pd conditions.

4. a) Explain thermal break down in solid dielectrics. How this mechanism is more significant than the other mechanism, b) Explain clearly suspended particle mechanism of liquid

5. a) Draw a neat exact equivalent circuit of a impulse generator I and indicate the significance of each parameter being used.

b) What is a cascaded transformer? Explain why cascading is done. Describe with neat diagram a three stage cascaded trans fonner.

6. a) Explain with neat sketches cockraft walton voltage multiplier circuit.

b) Draw a typical impulse current generator circuit and explain its operation and application.

7. a) What are the requirements of a sphere gap for measurement of high voltages? Discuss the disadvantages I of sphere gap measurements.

b) What are the problem associated with measurement of very high impulse voltages? Explain how these can be taken care of during measurement?

OR

8. a) Discuss various resistance potential dividers and compare their performance for measurement of impulse generator.

b) Discuss various methods of measurement of high impulse currents.

9. Write short note on any two of the following:

i) Testing of isolators

ii) Testing of circuit breakers

iii) Testing of cables

iv) Testing of transformers