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B. TECH.

THEORY EXAMINATION (SEM–VIII) 2016-17

EHV AC& DC TRANSMISSION

Time : 3 Hours ***Max. Marks : 100***

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1. Attempt all of the following questions: **10 x 2 = 20**

(a) Define audible noise.

(b) Define corona.

(c) Write standard transmission voltage.

(d) Why HVDC system is best for EHV AC system?

(e) Write the names of filters used in the HVDC system.

(f) What do you understand by surface voltage gradient?

(g) Define impulse generator.

(h) Define the significance of impulse tests.

(i) Define flash over and 50% flash over voltage.

(j) What are the causes of over currents?

SECTION – B

2. Attempt any five of the following questions: **5 x 10 = 50**

(a) What are the causes of over voltage in converter station? How would you protect the converter station equipment from these over voltage?

(b) Derive an equation for calculating the maximum electric intensity on the conductor surface of a three phase single circuit horizontal configuration line with two sub conductor per phase.

(c) Explain mechanical consideration in transmission line.

(d) What are the methods are used reducing the switching surge in EHV line?

(e) Explain the Damper and Spacers EHV AC-DC system.

(f) Discuss the design aspect of EHV lines, design factor under steady state condition.

(g) For r=1cm, H=5m, f=50Hz, calculate corona loss P_C according to peek's formula when $E=1.1E_0$ and $\delta=1$

(h) Discuss corona pulses, their generation and properties

SECTION – C

Attempt any two of the following questions: **2 x 15 = 30**

3. What do you meant by MTDC system? What are the different types of MTDC system? Explain and compare each type of MTDC system.

4. What are Explain the voltage multiplier circuits. Also explain the cascade connection of transformer for producing very high ac voltages

5. Discuss method of measuring high impulse currents. Discuss in detail about Sphere Gap measurements. What are its advantages and limitations for high voltage measurement?