05-06-2026 TE ELECTRICAL SEM-V C SCHEME EPS-II QP CODE: 10095592

Duration : 03 hrs **Maximum Marks = 80**

NOTE
1. Question No 1 is Compulsory.
2. Attempt any three questions out of the remaining five questions.
3. Assume the suitable data if necessary and justify the same.

Question no.	Question	Marks
Q.1 A	What is the fault ? Why do faults occur ? What is the effect of faults ?	**05**
Q.1 B	What is the current chopping phenomenon ?	**05**
Q.1 C	Draw and explain Use of ground wires in transmission lines .	**05**
Q.1 D	State and Explain factors affecting corona loss	**05**
Q.2 A	Describe the short circuit of a synchronous machine at no-load condition.	**10**
Q.2 B	Explain and draw the zero sequence networks for following types of connections of a three phase transformer i) Delta-Delta ii) Delta-Star(ungrounded) iii) Delta-Star(Grounded) iv) Star(Grounded)- Star(Grounded) v) Star(ungrounded)- Star(ungrounded)	**10**
Q.3 A	Derive the equation for fault current for Double line to Ground (LL-G) fault. State the various assumptions. Draw the sequence network for the same.	**10**
Q.3 B	Discuss the lightning phenomenon is step by step manner	**10**
Q.4 A	Describe the Z- Bus formulation.	**10**
Q.4 B	The line currents in a 3 phase system are Ia = 60 + j40, Ib= (-80 + j20), Ic= 20 - j60. Find the symmetrical components of line current. The line to neutral voltages in a 3 phase system are Van = 200∠ 0, Vbn = 600 ∠ 100, Vcn = 400 ∠ 270. Find Va1, Va2 and Va0	**10**

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Q.5 A	Why is insulation coordination required ? Explain the following : 1. Surge Reactor 2. Surge capacitor 3. Lightning Rod	**10**
Q.5 B	Discuss the phenomenon of transient generation due to capacitance switching.	**10**
Q.6 A	Discuss the generation and formation of corona ring.	**10**
Q.6 B	Derive the Fortescue theorem for symmetrical fault analysis	**10**

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