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M.Tech. (EE) (2018 Batch) (Sem.–2)

# POWER SYSTEM DYNAMICS-II

Subject Code : MTEE-201-18

M.Code : 76100

Time : 3 Hrs. Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**
1.Attempt any FIVE questions out of EIGHT questions.
2.Each question carries TWELVE marks.

1. Define stability of power system. Describe the approach of small signal stability analysis on the basis of low frequency oscillations in unregulated system.

2. Explain function of automatic voltage regulator with suitable diagram.

3. Explain large signal rotor angle stability relating dynamic equivalents and coherency.

4. Enumerate the general stability enhancing techniques in power system. How the stability problems can be mitigated using power system stabilizer? Explain with suitable schematic diagram.

5. Illustrate the concept of multi-machine stability in the context of conventional power system.

6. Define voltage collapse in power system. Discuss the general characterization of voltage collapse based on actual incidents in power system. Identify system design and operating measures that can be taken to prevent voltage collapse.

7. What do you mean by subsynchronous oscillations in power system? Also explain subsynchronous resonance and its counter measures. Derive the expression of subsynchronous natural frequency for a radial series compensated system.

8. Write technical notes on :

   (a) Effect of damper winding in synchronous machine.

   (b) Automatic generation control.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**



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