

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,**

**LONERE – RAIGAD – 402 103**

**Winter Semester Examination – December – 2019**

**Branch: M.Tech. (Specialization) EPS**

**Subject:- Power System Modeling (MTEPS101/ MTEE101 )**

**Date:- 10 /12/2019**

**Semester: I**

**Marks: 60**

**Time:3 Hrs.**

**Instructions to the Students**

1. Each question carries 12 marks.
2. Attempt any five questions of the following.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly.

- |  | (Marks) |
|--|---------|
| Q.1. Explain the underlying principle behind the park's transformation. Write the equations for synchronous generation in d-q-o forms. | (12)    |
| Q.2. a) What is need for power system modeling?  | (6)     |
| b) Explain modeling of phase shifting transformer  | (6)     |
| Q.3. a) State & Explain Synchronous machine connected to an infinite bus.  | (6)     |
| b) Explain model required for steady state analysis of syn. Machine.   | (6)     |
| Q.4. a) Explain basic principle of Excitation systems of syn. Machine.   | (6)     |
| b) Explain types of excitation system with neat labeled block diagrams.  | (6)     |
| Q.5. a) Explain Modeling of excitation systems.  | (6)     |
| b) Explain modeling of self excited dc exciter.  | (6)     |
| Q.6. a) Explain load modeling parameters acquisition methods.  | (6)     |
| b) Explain Modeling of static V AR compensators.   | (6)     |

**Paper End**

