

Total No. of Printed Pages:1

**SUBJECT CODE NO: H-1814**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**M.E. (Electrical Power System)**  
**Power System Dynamics & Stability**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks: 80]

N.B Please check whether you have got the right question paper.

- i) Assume suitable data whenever necessary  
 ii) Solve any two questions from each section

**Section A**

- Q.1 a) Explain the significance of synchronous machine power angle curve with neat diagram 10  
 b) Write and explain the different type of problems to be considered under small signal stability 10
- Q.2 a) Explain the block diagram of synchronous machine with a governor and voltage regulator 10  
 b) Explain in detail demagnetizing effect of armature reaction and effect of small changes in speed on unregulated synchronous machine 10
- Q.3 a) Explain the normalized torque equation of synchronous machine 10  
 b) Explain the classical model of single machine infinite bus system in detail 10

**Section B**

- Q.4 a) What is transient stability? Explain the effect excitation on transient stability and dynamic stability 10  
 b) What is voltage instability? Explain the factors affecting voltage instability and voltage collapse 10
- Q.5 a) Explain excitation system with block diagram and write the model of complete excitation system 10  
 b) Explain A.C. excitation system in detail 10
- Q.6 a) Explain the transient stability controllers 10  
 b) Explain supplementary modulation control FACTS devices 10