

Code No.OR-21/EPE

OR

JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, HYDERABAD
M .Tech. II Semester Supplementary Examinations, March – 2009
VOLTAGE STABILITY
(Electrical Power Engineering)

Time: 3 hours

Max. Marks.60

Answer any Five questions
All questions carry equal marks

1. Define short term voltage instability and long term voltage instability. Give examples of occurrences of Voltage instability in short term and long term range.
2. Explain the phenomena of voltage collapse during high lagging power factor load on receiving end of long A.C. transmission line.
3. Describe the procedure of switching in of shunt capacitors to prevent voltage collapse.
4. State the various methods of maintaining the steady state and short term voltage stability.
5. Explain the various limiting features in the excitation system of a synchronous generator and their significance.
6. With the help of a simple voltage versus time graph, show how an AVR helps in rapid recovery of voltage after sudden loading on generator.
7. Explain the various methods of improving the voltage stability and its practical aspects.
8. Derive the following indices regarding voltage stability:
 - a) Voltage collapse index
 - b) Minimum singular value
 - c) Jacobian and its sub matrices.