

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII • EXAMINATION – SUMMER 2014

Subject Code: 180906

Date: 27-05-2014

Subject Name: Advanced Power System - II

Time: 10:30 am TO 01:00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1(a)** Explain Least Square Approximation method of state estimation. **07**
(b) Explain classification of System state and security analysis of power System. **07**
- Q.2(a)** Define Voltage stability. Explain classification of Voltage Stability. **07**
(b) Explain application of Power System State Estimation. **07**
- OR**
- (b)** Derive the expression of Midpoint Voltage in a line terms of real power flow and line length. **07**
- Q.3(a)** Explain contingency analysis and security factors of power system. **07**
(b) Derive the expression for critical receiving end voltage and critical power angle at voltage stability limit for a Two bus Power system. **07**
- OR**
- Q.3(a)** Explain Tracking State Estimation for Power system. **07**
(b) Explain the role of transformer on Voltage Control of Power System. **07**
- Q.4(a)** Explain the different methods of reactive compensation to enhance Voltage Stability. **07**
(b) Explain the estimation of Periodic Components of Load Forecasting Techniques. **07**
- OR**
- Q.4(a)** Explain Long Term Load Predictions using Econometric Models. **07**
(b) Explain a Vertically integrated utility of Power system Structures. **07**
- Q.5(a)** Explain the causes of Voltage Collapse in Power System. **07**
(b) Explain the Structure of Deregulated power system structures. **07**
- OR**
- Q.5(a)** Explain the Treatment of Bad Data of State Estimation of Power system. **07**
(b) Explain Blackout Scenario and Power System Restoration. **07**
