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**

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