Appendix A

Data of Single machine Infinite Bus system

The system data on 1000 MVA base are given below[33] :

Generator								Transformer	
x_d	x_q	$x_d^{'}$	$x_q^{'}$	$T_{d0}^{'}$	$T_{q0}^{'}$	H	ω_B	R_t	X_t
1.7572	1.5845	0.4245	1.04	6.66	0.44	3.542	314 rad/sec	0.00	0.1364

Transmission Line			Excitation		Operating Data			
R_l	x_l	B_c	K_A	T_A	E_b	V_t	θ	X_{TH}
0.08593	0.8125	0.1184	400	0.025	1.0	1.05	21.65^0	0.13636

TCSC Data:

T_{TCSC}	α_0	X_{TCSC0}	p	X_{max}	X_{min}
15ms	142^0	0.62629	2	$0.8X_L$	0