

Q3			
	A	Obtain the incremental tie line power equations for two area system and draw its block diagram representation.	10
	B	For the system shown below, if a three phase fault occurs at the point 'P' of the outgoing radial line, derive the expression for the clearing angle and clearing time using equal area criterion. Explain effect of clearing time on stability.	10
Q4	A	A system consists of two plants connected by a tie line and a load is located at plant 2. When 100MW are transmitted from plant 1, a loss of 10MW takes place on the tie line. Determine the generation schedule at both the plants and power received by the load when λ for the system is Rs. 25 per MWhr and the incremental fuel costs (IC) are given by the equation: $IC_1 = 0.03P_1 + 17 \text{ Rs./ MWhr}$ $IC_2 = 0.06P_2 + 19 \text{ Rs./ MWhr}$	10
	B	If the power received by the load in part A of the question is 200MW, determine the saving in rupees per hour obtained by coordinating rather than simply including the transmission loss and not coordinating them in determining the loading of the plant	10
Q5			
	A	Develop block diagram representation of load frequency control with primary ALFC loop of an isolated power system	10
	B	Explain the dynamic response of load frequency controller with and without integral controller.	10
Q6			
	A	What are the factors affecting power system security?	10
	B	Write down the classification of power system states	10
Q7		Write short notes on any two	20
		<ul style="list-style-type: none"> i. Unit commitment and reliability considerations ii. Power system stability iii. Significance of penalty factor in economic load dispatch 	