Seat No.:		Enrolment No		
		GUJARAT TECHNOLOGICAL UNIVERSITY		
~ .	ME – SEMESTER II (OLD) – • EXAMINATION – SUMMER 201			
Subject Name: Flexible AC Transmission System			Date:20/05/2016 Total Marks: 70	
		30 am to 01:00 pm Total Ma		
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a) (b)	Discuss the merits and demerits of FACTS devices. Mention the names of series FACTS devices and explain any one of them in detail.	07 07	
Q.2	(a) (b)	Describe the merits, demerits and applications of SVC. Explain the construction and working of a STATCOM. OR	07 07	
	(b)	With necessary diagram explain the role of STATCOM as a voltage controller.	07	
Q.3	(a) (b)	Mention the similarities and differences between GCSC and TCSC Mention the modes of operation of a TCSC. Discuss Vernier capacitive mode of operation in detail with necessary waveforms. OR	07 07	
Q.3	(a) (b)	Explain the application of TCSC for power swing damping. Describe Selective Harmonics Elimination Modulation (SHEM) technique using 3 level BVSI STATCOM.	07 07	
Q.4	(a) (b)	Give a comparison of various SVCs. Explain the construction and working of UPFC. How is it superior to other FACTS devices? OR	07 07	
Q.4	(a) (b)	Briefly describe the working of FC-TCR. What is SSSC? Can it be used for Sub Synchronous Resonance (SSR) mitigation? If yes, How?	07 07	
Q.5	(a) (b)	Explain the construction and working of TCR. With necessary waveforms explain the role of mid-point shunt reactive power compensator for a transmission line.	07 07	

OR

Q.5 (a) Explain the Constant Current (CC) control with the help of controller circuit diagram and control characteristic for the closed loop control of TCSC.

(b) Explain the working of Thyristor Controlled Phase Angle Regulator **07** (TCPAR) and its importance.
