Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
EIGHTH SEMESTER B.TECH DEGREE EXAMINATION(S), OCTOBER 2019

Course Code: EE464
Course Name: Flexible AC Transmission Systems

Max. Marks: 100   Duration: 3 Hours

PART A
Answer all questions, each carries 5 marks.

Marks

1	Name different FACTS devices with their circuit representations.	(5)
2	Why midpoint of a symmetrical transmission line is considered ideal for shunt compensation?	(5)
3	Differentiate between the working of TSR and TCR	(5)
4	Draw the phasor diagram of the 3 phase PAR	(5)
5	What is the basic principle of operation of STATCOM?	(5)
6	Draw the V-I characteristics of STATCOM and SVC and compare.	(5)
7	Draw the circuit configuration of SSSC	(5)
8	How to implement a UPFC using two voltage source converters?	(5)

PART B
Answer any two full questions, each carries 10 marks.

9	How power flow in an interconnected AC system can be controlled? What are the constraints in maximum line loading?	(10)
10	Compare between Static converter based and Passive Impedance based var generators	(10)
11	By shunt compensation the transient stability limit and power transfer capability can be is increased. How?	(10)

PART C
Answer any two full questions, each carries 10 marks.

12	a)	How a TSC can be implemented? Draw the schematic.	(5)
	b)	What is the role of series inductor in a TSC?	(5)
13	a)	What are the objectives of a voltage regulator and a phase angle regulator?	(4)
	b)	How the concept of voltage regulator and phase angle regulator can be implemented? Explain with schematic and phasor diagram.	(6)
14	a)	How a TCSC can be implemented? Draw its operating region.	(5)

b)   How the continuous control of thyristor tap changing can be achieved? Draw the control scheme.   (5)

PART D
Answer any two full questions, each carries 10 marks.

15   How SSSC can be controlled by direct control method? Explain with neat Schematic.   (10)

16   Using the phasor diagrams explain the versatile transmission control capability of UPFC.   (10)

17   What is interline power flow controller? With a schematic diagram, explain its working.   (10)

****