

SUBJECT CODE NO:- P-175
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(EEE/EEP/EE) Examination May/June 2017
Elective-I: Flexible AC Transmission System
(Revised)

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- (i) Question no.1 & 6 are compulsory.
 - (ii) Attempt from each section any two questions from the remaining questions
 - (iii) Assume suitable data wherever necessary.

Section A

- Q.1 Solve any five questions 10
- i) What are different types of storage devices ?
 - ii) How is the reactive power controlled using facts devices
 - iii) What is necessity of compensation?
 - iv) What are adv. of facts controllers ?
 - v) What is best location for SVC ?
 - vi) What are the different power electronic switching devices?
 - vii) What are advantages of scope in the dynamics characteristics of SVC?
 - viii) What are different types of losses in STATCOM?
- Q.2 a) Explain factors which limits the loading capability of transmission line. 08
b) Explain in brief the basic types of facts controller 07
- Q.3 a) Explain the construction and working of 1 ϕ full wave bridge type converter 07
b) Explain construction & working of FC - TCR 08
- Q.4 a) Compare between SVC and STATCOM 07
b) Explain the working of TSC-TCR with neat diagram and wave forms 08
- Q.5 a) Explain the static VAR system 07
b) Why we need transmission interconnection 08

Section B

- Q.6 Solve any five questions 10
- i) What are advantages of TCSC?
 - ii) What is Bang – Bang Control?
 - iii) What are the different constraints for operating UPFC?
 - iv) What is IPFC?
 - v) What is use of Braking resistor?
 - vi) What is meant by load compensation?
 - vii) What are advantages of TCVRs?
 - viii) What are applications of SVC ?

- Q.7 a) Explain GTO – Thyristor controlled series capacitor 08
 b) Explain series compensator 07
 (i) Improvement of Transient Stability
 (ii) Power Oscillation damping.
- Q.8 a. Explain the functional control scheme for TCSC based on the synchronization to the fundamental 07
 components.
 b. Explain power flow control by phase angle Regulator 08
- Q.9 a) Explain the hybrid phase angle Regulator 08
 b) How we can implement UPFC by two back – to – back voltage source convertors Explain 07
- Q.10 a) Explain basic operating principle of IPFC 08
 b) Explain the working of TCBR (Thyristor controlled braking Resistor) 07