

Exam.Code:1019  
Sub. Code: 7795

1129

M.E. Electrical Engineering (Power System)

Third Semester

EE-8303: Flexible AC Transmission Systems (FACTS)

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt any five questions.

x-x-x

- I. a) What is the best location for SVC? Justify.  
b) Explain the advantages of slope in the dynamic characteristics of SVC? (2x5)
- II. a) Explain GCSC with neat diagram and suitable waveforms.  
b) Explain are the basic types of FACTS controllers. Explain Static VAR System. (2x5)
- III. Discuss about the analysis of uncompensated transmission lines. Also formulate the FACTS devices in reactive power compensation and in reduction of losses. (10)
- IV. How an UPFC scheme can be implemented using two back to back voltage source converters. Differentiate between UPFC and IPFC. (10)
- V. How is the coordination of FACTS controllers carried out? Describe in detail the power flow control coordination of FACTS controllers using genetic algorithm. (10)
- VI. Explain the applications of STATCOM. What are the different types of losses in STATCOM? Compare STATCOM with SVC. Also explain the working principle of STATCOM? (10)
- VII. Explain variable reactance model of TCSC with neat diagram. Explain hybrid phase angle regulator. Compare UPFC to series compensators. (10)
- VIII. Write note on the following:-
  - a) GCSE Compensator
  - b) Phase Angle Regulator (2x5)

x-x-x