

Exam.Code:1019

Sub. Code: 7795

1128

**M.E. Electrical Engineering (Power System)**  
**Third Semester**  
**EE-8304: Flexible AC Transmission Systems (FACTS)**

Time allowed: 3 Hours

Max. Marks: 50

*NOTE: Attempt any five questions.*

x-x-x

- I. a) Explain various loading capability limits in power flow systems.  
b) What is a stand-alone series and shunt compensation? (8,2)
- II. Write a comparison between STATCOM and SVC in the following
  - a) V-I characteristics
  - b) ) transient stability (10)
- III. Describe any of the various impedance type static VAR generators. (10)
- IV. Explain the principle of operation, control scheme and characteristics of GCSE. (10)
- V. Describe the various transmission control capabilities of UPFC. (10)
- VI. a) Explain the working and characteristics of Thyristor switched series capacitor with neat diagram.  
b) What is Bang-Bang control of TCSC? (7,3)
- VII. Explain the working and characteristics of TCVR with neat diagram. (10)
- VIII. Explain the application of the following FACT devices  
STATCOM, GCSE, SSSC, UPFC, TSSC (10)

x-x-x