

Code: EEPC2T2

I M.Tech - II Semester-Regular Examinations – September 2015

**FACTS CONTROLLERS
(POWER SYSTEM CONTROL AND AUTOMATION)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) What is meant by flexibility of electric power transmission? Explain the features of combined controllers. 7 M
b) Explain the means of power flow control. 7 M
2. a) What are basic requirements of High Power Devices. 7 M
b) Explain the basic types of FACTS Controllers. 7 M
3. a) Explain voltage control and harmonic elimination techniques employed in VS converters. 7 M
b) Explain about the 3-phase full wave bridge convertor with neat diagram. 7 M
4. a) Explain the transformer connections of 24 pulse converter. 7 M

- b) Explain the operation of self commutating current sourced converter with relevant waveforms. 7 M
5. a) Explain the means of transient stability. 7 M
- b) Explain with the help of a block diagram representation, how the STATCOM is implemented for the power oscillation damping during a disturbance? 7 M
6. a) Discuss various types of static var generators. 7 M
- b) Explain the functional control scheme for the TSC-TCR. 7 M
7. a) Explain the STATCOM. 7 M
- b) Briefly explain V-I and V-Q characteristics of STATCOM and SVC. 7 M
8. a) Explain in detail, the basic operating control scheme of GCSC. 7 M
- b) Explain the basic requirements of compensators. 7 M