

Roll No

MEPS - 201
M.E./M.Tech., II Semester
Examination, June 2016

Reactive Power Control & FACTS

Time : Three Hours

Maximum Marks : 70

Note : Attempt any five questions.

1. What are the basic types of controller used in facts. Explain the principle of operation for static var compensation along with applications.
2. a) Explain the principle of operation and controls for thyristor controlled phase angle regulator.
b) Describe the STATCOM and its applications.
3. What is Unified Power Flow Controller (UPFC). Explain its principle of operation, characteristics along with control its performance.
4. Analysis and design of damping torque contribution by FACT based stabilizer installed in SMIB system.
5. a) Discuss the Heffron-Phillips model of a SMIB system installed with SVC.
b) Describe the Heffron-Phillips model of a SMIB system with UPFC.

6. Describe design procedure for FACT based stabilizers by phase compensation method.
7. Explain power transmission control using Controllable Series Compensation (CSC) and SSSC.
8. Write short notes on any two of the following:
 - a) Benefits from FACTs technology
 - b) Interline Power Flow Controller (IPFC)
 - c) Thyristor phase angle regulator
 - d) Thyristor Controlled Series Compensator (TCSC)
