

No. of Printed Pages : 03

Roll No.

AA-45

M. Tech. EXAMINATION, May 2018

(First Semester)

(B. Scheme) (Re-appear Only)

EE(PS)

MPS509B

FACTS & HVDC

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(2-04/8) M-AA-45

P.T.O.

Unit I

1. (a) What are the objectives and advantages of FACTS technology ? **7.5**
(b) Explain working SVC with neat diagram. What are its applications ? **7.5**
2. (a) Discuss various shunt connected FACTS controller. **7.5**
(b) Discuss in brief on TSSR. **7.5**

Unit II

3. (a) How series compensation enhances the voltage and transient stability ? **7.5**
(b) Explain operating control scheme for TCSC. **7.5**
4. (a) Explain external control scheme of SSSC with neat diagram. **7.5**
(b) What is the concept of unified power flow controller (UPFC) ? Explain its principle of working. **7.5**

M-AA-45

2

Unit III

5. (a) Why shunt compensation is provided in the power system ? Explain. **7.5**
(b) How SVC improves power oscillation damping ? **7.5**
6. Explain Principle of operation of Static Synchronous Compensator (STATCOM). How transient stability of transmission line can be enhanced with SATCOM. Explain control scheme of STATCOM with neat diagram. **15**

Unit IV

7. (a) What are main components of HVDC transmission ? Explain. **7.5**
(b) Explain working of six pulse converter with neat diagrams. **7.5**
8. (a) Explain equivalent pulse control scheme for HVDC converters. **7.5**
(b) Explain parallel operation of HVDC and HVAC systems. **7.5**

(2-04/9) M-AA-45

3

50