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1085

Reg. No. : .....

Name : .....

**Eighth Semester B.Tech. Degree Examination, April 2014  
(2008 Scheme)**

**08.805 : Elective – IV (e) HVDC AND FACTS (E)**

Time : 3 Hours

Max. Marks : 100

**PART – A**



Answer **all** questions and **all** questions carry **equal** marks :

1. What is the need for reactive power control in electrical transmission line.
2. What are the advantages of STATCOM ?
3. Draw and explain the equivalent circuit of a line with shunt capacitor at the mid point.
4. Define the term static var compensates.
5. What is the role of DC link in UPFC ?
6. How to model a TCSC ?
7. What are the advantages of HVDC transmission ?
8. Explain different configuration of TCPAR.
9. What are the disadvantages of AC transmission system ?
10. Explain any two applications of DC transmission system.

**(10x4=40 Marks)**



## PART – B

Answer **any two** questions from **each** Module :

## Module – I

11. With neat circuit diagram explain the various basic types FACTS controllers. 10
12. Explain a transmission line with shunt capacitor at the midpoint of the line. 10
13. Explain the power flow and dynamic stability consideration of uncompensated transmission line. 10
14. What is the load compensation ? Discuss its objectives in power system. 10

## Module – II

15. Explain the performance of a STATCOM compare it with the performance of SVC. 10
16. How series compensation is achieved in SSSC ? 10
17. With aid of block diagram, explain the characteristics of UPFC. 10
18. Discuss the power transmission control using SVC. 10

## Module – III

19. Explain different types of DC link. 10
20. Explain the basic concept of DC circuit interruption. 10
21. What are the methods of control adopted for HVDC link ? 10
22. Compare monopolar converter station and bipolar converter station. 10

(3×20=60 Marks)