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Roll No

EX - 7102**B.E. VII Semester**

Examination, December 2013

EHV AC and DC Transmission*Maximum Marks : 70**Note : Attempt one question from each unit. All question carry equal marks.***Unit - I**

1. a) Discuss the limitations and advantages of HVDC transmission. 7
 b) Explain the modern trends in DC transmission. Justify their contribution with explanation. 7

OR

2. a) Describe various types of DC links and compare them. 8
 b) What do you mean by the term "Power handling capacity". Explain power handling capacity of AC lines. 6

Unit - II

3. a) Explain the concept of FACTS in power transmission. Also write its advantages and limitations. 7
 b) Discuss why series capacitors are installed for long EHV AC lines. Also discuss how and where these capacitors are installed. 7

OR

4. a) Explain the following terms: 8
 i) STATCOM
 ii) Static VAR Compensator (SVC)
 b) Explain the principle and workings of unified power flow controller (UPFC). 6

Unit - III

5. Explain typical HVDC converter station with schematic diagram. Describe the function of each unit installed in it. 14

OR

6. a) Discuss multiterminal DC system (MTDC). Explain it along with advantages and applications. 7
 b) What are converter faults? Explain protection against over voltage in a converter station. 7

Unit - IV

7. a) Describe the problems and advantages associated with parallel operation of HVAC and DC system. 7
 b) Explain desired features of control in case of constant current control. 7

OR

8. a) What is extinction angle control? Explain its features and utility in control of EHV DC system. 7
 b) How will you achieve control in HVDC system using ignition angle control? Explain it clearly. 7

Unit - V

9. a) Explain the term "Attenuation and distortion" of travelling waves. 7
 b) Discuss the specification of travelling waves in detail with graph of magnitude versus tail. 7

OR

10. a) Derive an expression for reflection coefficient of travelling waves at a junction. 7
 b) How lightning and switching surges are controlled in a power system? Explain. 7
