B.E/B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2011

ELECTRICAL &ELECTRONICS ENGINEERING BRANCH

SIXTH SEMESTER

EE520-HVDC Transmission
(Regulations -2004)

Time : 3 Hr   Max.Mark : 100

Answer ALL Questions
Part-A(10*2 =20 Marks)

1. What is the need for HVDC transmission system?

2. Mention the types of HVDC transmission system.

3. Why single phase AC-DC converters are not employed in Graetz circuit?

4. Write the Fourier equation for full converter.

5. Define commutation failure.

6. What are the methods of DC link control?

7. Why higher order frequencies are not considered for filter design.

8. What are the sources of harmonics?

9. What are the assumptions to be made for modeling the converter?

10. Mention any two software tools for HVDC system simulation.

Part B-(5*16=80 Mark)

11.Explain the philosophy and tools used for HVDC system simulation.

12.a). Explain the advantages and disadvantages of HVDC transmission over AC

transmission system.

OR

12.b). Explain the types of HVDC transmission system and modern trends in HVDC
transmission system.

13.a) Explain three phase AC-DC converter fed R load with source inductance.

OR

13.b) . Explain single phase AC-DC converter fed RL load with source inductance .

14.a). What do you mean by current and extinction angle control? Explain them in

Detail.

OR

14.b).Explain valve blocking , bypassing and stopping and power flow reversal.

15.a) Explain AC and DC side harmonics in detail and discuss how to reduce the
harmonics.

<div align="center">OR</div>

15.b) Derive the harmonic analysis for single phase full converter .