

**IV B.Tech I Semester Supplementary Examinations, November 2005**

**HVDC TRANSMISSION**

**(Electrical & Electronic Engineering)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. Write Technical notes on the following. [8+8=16]
  - (a) Back-to-Back HVDC coupling system.
  - (b) Back to back DC link along with AC feeder.
2. Clearly explain the different converter configurations commonly employed for HVDC converter and bring out their relative merits and demerits. [16]
3. What are the limitations of manual control of HVDC converters? Explain the basic means of achieving control of converters? [16]
4. What is meant by reactive power control? Explain in detail how it is achieved. [16]
5. Obtain the mathematical model of a d.c. network and d.c. converter, including converter controller. [16]
6. (a) What are the basic principles of over current protection. [8]  
(b) Discuss the various faults exist in converter station? Explain. [8]
7. It is required to eliminate harmonics of order 10 and below 10 other than fundamental in a 12 pulse converter. Suggest a suitable transformer configuration and derive an equation for primary current of transformer. [16]
8. What are the various types of filters that are employed in HVDC converter station? Discuss them in detail. [16]

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