

CODE NO: NR410205 NR

USN

--	--	--	--	--	--	--	--	--	--

**2005 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY**

IV B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS

**HVDC TRANSMISSION**

(ELECTRICAL&ELECTRONICS ENGINEERING)

NOVEMBER 2005

TIME: 3 HOURS

MAX MARKS: 80

---

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

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.

Educationobserver.com