

Library

B.E. (E) (VII) (Rev.)  
HVDC Transmission

28/12/07

Con/5054-07.

(REVISED COURSE)  
(3 Hours)

CD-7083  
[Total Marks : 100]

MASTER

- N.B. : (1) Question No. 1 is compulsory.  
 (2) Attempt any four questions out of remaining six questions.

- |    |     |   |    |
|----|-----|---|----|
| 1. | (a) | Write down comparison of AC and DC Transmission.  | 10 |
|    | (b) | Explain Single Commutation failure and Double Commutation failure.  | 10 |
| 2. | (a) | Explain the firing schemes of HVDC valves.  | 10 |
|    | (b) | Explain the problems associated with weak AC systems. What are the methods to overcome them ?   | 10 |
| 3. | (a) | What are the causes and effects of faults occurring in a converter station ?  | 10 |
|    | (b) | Explain the Hierarchical Control structure for a d.c. link.   | 10 |
| 4. | (a) | What are the classification of HVDC links ? Describe each one with neat diagrams.   | 10 |
|    | (b) | Describe with waveforms the transfer of current to the bypass valve -   | 10 |
|    |     | (i) Rectifier operation   |    |
|    |     | (ii) Inverter operation.  |    |
| 5. | (a) | Explain with neat diagrams and waveforms the principle of 12 pulse converter.   | 10 |
|    | (b) | Explain in brief the starting and stopping of a DC link.  | 10 |
| 6. | (a) | Explain with neat diagrams the components of HVDC Transmission system.  | 10 |
|    | (b) | Explain the influence of AC system strength on AC/DC system interaction.  | 10 |
| 7. | (a) | Explain the causes of Harmonic generation in HVDC and its effect on the system. Describe different filters used to eliminate these harmonics. | 10 |
|    | (b) | Write short notes on :  | 10 |
|    |     | (i) Mode Stabilization  |    |
|    |     | (ii) Recent Trends in HVDC.   |    |

\*\*\*\*\*