

lib

B.E (Elect.) VIII (old)

10/11/07

VT Dec. 07. 264

HVDC Transmission

MASTER

CD-6312

Con/5436-07.

( OLD COURSE )

( 3 Hours )

[ Total Marks : 100

- N.B. :** (1) Attempt any **five** questions.  
 (2) **All** question carry **equal** marks.  
 (3) Explain with **neat diagram** as and when **necessary**.

1. (a) State different methods of D.C. transmission.  
 (b) Draw a neat circuit diagram and explain working of six pulse converter.
2. (a) State and explain different sources of harmonics in D.C. transmission.  
 (b) State and explain method of reactive power compensation in HVDC transmission.
3. (a) Discuss filters used in HVDC system on A.C. sides and D.C. side. State clearly their purpose.  
 (b) What are the possible faults on converter, explain how to protect converter against over current ?
4. (a) State and explain different HVDC links. Discuss their merits and demerits.  
 (b) Explain the method of reversal of flow of power in HVDC system.
5. (a) What are the problems associated with low effective short circuit ratios ?  
 (b) Discuss as reference to power system strong system and weak system.
6. (a) Discuss the causes of over voltages in converter stations and method of protection against over voltages.  
 (b) What are the different ratings of the transformer used in converter stations ?
7. Write short notes on any **two** :
  - (a) Valve characteristics used in converters
  - (b) Starting and stopping of valves in converters
  - (c) Commutation methods used for converter circuits
  - (d) Improvement of A.C. system performance using HVDC.

\*\*\*\*\*