

Seat No.	
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B.E. (Electrical) (Semester - VIII) Examination, December - 2015

HVDC SYSTEMS

Sub. Code : 49429

Day and Date : Tuesday, 01 - 12 - 2015

Total Marks : 100

Time : 10.00 a.m. to 1.00 p.m.

- Instructions :
- 1) Attempt any three questions from each section.
 - 2) Draw neat diagrams wherever necessary.

SECTION - I

- Q1) a) What are the types of DC links? Explain them with neat sketch. [8]
 b) State the applications of HVDC transmission. Also state limitations of HVDC transmission. [8]
- Q2) a) Line technical details of HVDC projects in India. Explain any one in detail. [8]
 b) Draw schematic diagram of a typical converter station. Explain each component shown. [8]
- Q3) a) Explain the stability of control in dc transmission system. How can it be improved? [8]
 b) Draw and explain individual and combined converter control characteristics. [10]
- Q4) a) State the limitations of manual control in HVDC stations Compare constant current versus constant voltage control. [8]
 b) Draw equivalent circuit at dc transmission. Hence explain basic means of control and power reversal. [8]

P.T.O.

SECTION - II

- Q5) a) Explain characteristic and non-characteristic harmonics. What are their causes and effects? [10]
b) Explain the types of converter faults. State their causes and remedies. [8]
- Q6) a) What are the functions of smoothing reactor in HVDC system? [8]
b) Explain reactive power balance in HVDC station. [8]
- Q7) a) Explain configuration and types MTDC systems. [8]
b) What are the causes of over-voltages in HVDC system? State the protection against it. [8]
- Q8) a) Classify the harmonic filters on different basis. Explain their applications. [8]
b) Explain the process of fault. Clearing and reenergization of HVDC line. [8]

