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Seat No.	

B.E. (Electrical) (Semester - VIII) Examination, May - 2015
HVDC SYSTEM
Sub. Code : 49429

Day and Date : Thursday, 07 - 05 - 2015 **Total Marks : 100**

Time : 2.30 p.m. to 5.30 p.m.

Instructions :
1) **Attempt any three questions from each section.**
2) **Assume suitable data if necessary.**
3) **Draw neat diagrams wherever necessary.**

SECTION - I

Q1) a) Explain maximum current minimum current voltage - dependent current. Limits and power control of HVDC line. Draw them on relevant V - I Characteristics. **[8]**

b) Explain thyristor grid control in the converter. **[8]**

Q2) a) Explain the mis operations of converter. **[8]**

b) Explain the constitution of EHVAC and DC links state and draw kinds of DC link. **[8]**

Q3) a) State and explain functions of dc reactor in HVDC transmission. **[8]**

b) Compare EHVAC and HVDC transmission on the basis of (i) Economics & (ii) Technical aspects. **[8]**

Q4) a) Draw and explain actual combined control characteristics; CIA, CC and CEA allowing reverse power flow. **[10]**

b) State the HVDC projects in India. Explain any one in detail. **[8]**

P.T.O.

SECTION - II

Q5) a) Explain internal and external sources of over-voltages in dc system. State methods to control them. [8]

b) Explain the reactive power balance in HVDC substation. [8]

Q6) a) Explain fault clearing and reenergizing of HVDC line. [8]

b) Compare MTDC interconnection and AC interconnection. What are the advantages of MTDC system. [8]

Q7) a) Compare and explain characteristics and uncharacteristics harmonics. Explain their causes and consequences. Explain one method of suppression. [10]

b) Explain types of filters by its location and manner of connection to main circuit [8]

Q8) a) Draw and explain the layout of typical HVDC station. [8]

b) Explain the applications of HVDC system. What are the limitations of HVDC systems? [8]

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