

Subject Code: G5602/R13

**M. Tech – I Semester Regular/Supplementary Examinations, April, 2015
HVDC TRANSMISSION**

**(Common to HVE, HVPS, PS, PSC&A, EPE, EPS, PE, P&ID, PE&ED,
PE&D, EM&D, PE&PS and APS)**

Time: 3 Hours

Max Marks: 60

**Answer any FIVE questions
All questions carry EQUAL marks**

1. (a) Briefly explain the power handling capabilities of HVDC lines.
(b) Mention the advantages of HVDC technical economical reliability aspects.
2. (a) Write the special features of converter transformers.
(b) Draw the equivalent circuit of converter and explain it.
3. Mention the reasons for generation of harmonics in HVDC transmission.
4. Write short notes on the following terms
(a) Individual phase control
(b) Constant extinction angle
5. (a) Explain the significance of DC power modulation.
(b) What are the advantages of Multi-terminal DC links?
6. (a) Give the comparison between series and parallel MTDC systems.
(b) Draw and explain the rectifier characteristics by voltage limiting control method.
7. (a) Discuss about the over voltages due to disturbances on DC side.
(b) What are the uses of circuit breakers in HVDC systems?
8. (a) Explain briefly about surge arrester and their application?
(b) Discuss about over current protection.

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