

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
M.Tech I Year II Semester (R16) Regular Examinations May 2017
HVDC TRANSMISSION
(Power Electronics)

Time: **3 hours**Max. Marks: **60**(Answer all Five Units **5 X 12 = 60** Marks)**UNIT-I**

- 1 a Write the Comparison between AC and DC transmission? **6M**
 b Explain the power handling capabilities of HVDC lines? **6M**

OR

- 2 a Explain the operation of a 6 pulse converter with a neat circuit diagram? **6M**
 b Explain the static converter configuration of a HVDC system? **6M**

UNIT-II

- 3 a Explain the DC Power flow control of HVDC system? **6M**
 b Explain the harmonics elimination in a HVDC Transmission system? **6M**

OR

- 4 a What is meant by individual phase control and what are the draw backs of this control and explain how these drawbacks can be eliminated? **6M**
 b Explain the constant ignition angle control and constant current control? **6M**

UNIT-III

- 5 a List out different types of multi-terminal DC links with suitable diagrams. **6M**
 b Explain parallel connected multi terminal DC link with suitable diagram. **6M**

OR

- 6 a Explain the interaction between HVAC & DC systems? **6M**
 b Explain Individual phase control and equidistant firing angle control? **6M**

UNIT-IV

- 7 a Briefly explain over voltage protection scheme in the HVDC system **6M**
 b Briefly explain over current protection scheme in the HVDC system. **6M**

OR

- 8 a Explain the over voltages due to DC side line faults. **6M**
 b What are the over voltages due to disturbances on AC system side? Explain. **6M**

UNIT-V

- 9 a Discuss the various faults exist in converter station. Explain. **6M**
 b Briefly describe the various faults that occur in converter station? Explain. **6M**

OR

- 10 a What are the different causes of converter faults? **6M**
 b Write a short note on the following **6M**
 (i)Smoothing reactor (ii)Surge arresters (iii)Transient overvoltages **6M**

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