

EE-036 HIGH VOLTAGE DC TRANSMISSION**UNIT I**

General aspects –HVAC and HVDC links –comparison – economic, technical performance reliability – limitation –properties of converter circuits –choice of best circuit for HVDC converters. 8

UNIT II

Thyristor converter circuits –Analysis with overlap in converters – basic means of control power reversal desired features of control – actual control characteristics. 8

UNIT III

Inverters- power control– commutation failure D.C. Reactors –voltage and current oscillations –Circuit breakers, over voltage protection. 8

UNIT IV

Characteristics and uncharacteristic harmonics-troubles due to harmonics-harmonic filters- converter charts of direct current and voltage-active and reactive power. 8

UNIT V

Interaction between ac and dc systems- converter transformers-earth electrodes- design of back to back thyristor converter system 8

References:

1. Kimbark E.W. Direct current transmission- vol.1; Wiley Interscience , New York, 1971.
2. Arrilaga, J., High voltage direct current transmission, peter pereginver Ltd. London, U.K.1983.
3. Padiyar, K.R., HVDC transmission systems, Wiley Eastern Ltd., New Delhi,1992.