

Total No. of Printed Pages:1

SUBJECT CODE NO:- H-1650
FACULTY OF SCIENCE AND TECHNOLOGY
M.E. (Electrical Power Systems)
HVDC Transmission
(REVISED)

[Time: Three Hours]

[Max.Marks: 80]

Please check whether you have got the right question paper.

- N.B
1. All question are compulsory each carries equal marks
 2. Figures to right indicates full marks.
- Q.1 Solve any two
- a) Compare AC & DC transmission system on the basic of ground return, harmonics ,stability economics ,technical performance and reliability. 10
 - b) Give analysis of Graetz circuit in detail with overlap under three valve condition when $u=60^\circ$ 10
 - c) Explain switching characteristics of thyristor valve during turn ON and turn OFF state 10
- Q.2 Solve any two
- a) With neat block diagram discuss basic power controllers used for HVDC link to improve 10
power security of overall system. Explain higher level controller used for it
 - b) Explain individual phase control method for firing angle control of converter. What are 10
the drawbacks of IPC.
 - c) Discuss discrete model for 6 – pulse bridge converter used in HVDC system 10
- Q.3 Solve any two
- a) What are potential application of MTDC system 10
 - b) Discuss use of D.C smoothing reactors in HVDC system also write advantages & 10
limitations of it
 - c) Explain reactive power balance power flow with the help of flow chart? 10
- Q.4 Solve any two
- a) Write all types of A.C filters explain in detail design criteria used for it 10
 - b) Discuss modeling of D.C network 10
 - c) Discuss protection against overvoltage in converter station with neat diagram? 10