Roll No. | | | | | | | | | | | | |

Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(Power System) (Sem.–2)

H.V.D.C. TRANSMISSION

Subject Code : PEE-508

M.Code : 38810

Time : 3 Hrs. Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWENTY marks.**

Q1 a) Explain the H.V.D.C. Power flow mechanism in details with all components. (12)

b) Differentiate between H.V.D.C and EHVAC power flow link. (8)

Q2. Draw and explain the working of 3-phase 6-pulse bridge converter with suitable diagrams, waveforms and applications. (20)

Q3. a) What are difference between operating features of rectifier and inverter? (10)

b) What are the roles of CIA and CEA and CC in HVDC? (10)

Q4. a) Why reactive power compensation is required in HVDC substation? Explain them. (10)

b) Explain static VAR system for the load compensation. (10)

Q5. a) How harmonics is eliminated in HVDC? Explain. (5)

b) Design a harmonic filter to reduce the telephone interface for HVDC. (15)

Q6. Discuss and analyze the stability aspect of asynchronous link. (20)

Q7. What is multi-terminal HVDC substations system? Explain with suitable diagram wave form analysis. (20)

Q8. Write short notes on :

a) Equivalent circuit of HVDC line. (5)

b) Protection of HVDC system. (5)

c) Role of converter and inverter in HVDC. (5)

d) Synchronous link stability. (5)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.