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Total No. of Pages : 02

Total No. of Questions : 08

M.Tech. (Power System) (2018 Batch) (Sem.-3)

HVDC

Subject Code : MTPS-301B-18

M.Code : 76551

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

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

- Q1 a) What are major reasons to adopt H.V.D.C. system over EHV AC? Justify your answer.
- b) Compare various types of H.V.D.C. links. Also, suggest one suitable for Indian scenario.
- Q2 Draw and explain working of 3-phase 6-pulse bridge converter with suitable diagrams, waveforms and applications.
- Q3 a) What are devices used for control of H.V.D.C. link? Justify the device requirement.
- b) Explain the control of MTDC system in details.
- Q4 a) What are techniques used for reactive power compensation in HVDC substations. Explain them with their features.
- b) Explain the method of individual phase control technique in HVDC system.
- Q5 a) What are the reasons for harmonics in HVDC? Describe the method of mitigating them.
- b) What are various types of filters required to reduce interfaces in HVDC system.
- Q6 Discuss and analyze the stability studies of HVDC system under various conditions.
- Q7 What are protective devices used in the HVDC substations. Explain their roles with justification.

Q8 Write short notes on :

- a) Modeling of HVDC line.
- b) Digital measurement in HVDC system.
- c) National & International standards of HVDC.
- d) Power flow solution of HVDC system.

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.