

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EE)PT (Sem.-10)

HIGH VOLTAGE DIRECT CURRENT TRANSMISSION

Subject Code : BTEE-805Z

M.Code : 76347

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a. What is the role of smoothing reactor in a DC link?
- b. What is meant by multi terminal DC link?
- c. Draw the communication link of HVDC transmission.
- d. Mention the basic requirement of control philosophy adopted in HVDC system.
- e. How will we overcome the disadvantages in dc transmission?
- f. Write the EMI effect on HVDC link.
- g. List two disadvantages of AC Transmission over long distance.
- h. What is the choice of converter configuration?
- i. Name the HVDC transmission in India.
- j. What is the necessity of higher level controller for HVDC link?

SECTION-B

2. Explain the technological development in control and protection for better performance of DC transmission system.
3. Illustrate the power flow analysis with VSC based HVDC system.
4. Explain the complete characteristics of twelve-pulse converter.
5. Explain the planning routes for HVDC transmission system.
6. Discuss the effects of over-current and over-voltage on converter station.

SECTION-C

7. For a three-phase six pulse Graetz circuit draw the timing diagram considering overlap angle as less than 60° and without overlap for the voltage across load.
8. With a neat schematic diagram discuss the DC transmission system in detail.
9. Write notes on :
 - a. Converter bridge characteristics
 - b. Modelling of DC network.

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.