

B.E. SEM - III C-scheme Summer 2025 ELEC
 Time: 3Hrs 80 Marks 3hrs
 616125

Note :

- Question No.1 is compulsory.
- Solve ANY THREE questions from the remaining five questions.
- Figure to the right indicates full marks.
- Assume suitable data wherever required, but justify the same.

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- Q. 1 Solve ANY FOUR questions from following. (Each question carries 5 marks) 20
- a) Enlist the advantages and disadvantages of back to back HVDC terminal connection.
 - b) Compare HVDC transmission with HVAC transmission on the basis of breakeven distance.
 - c) Explain Arc Through fault.
 - d) Importance of smoothing reactor and filters.
 - e) What is mean by mode stabilization?
 - f) Draw Graetz bridge using SCR and explain it.
- Q. 2 a) Draw the diagrams for different types of HVDC link and compare advantages and disadvantages. 10
- c) Derive the equivalent circuit of a three phase fully controlled rectifier with grid control and overlap angle greater than 60 degree. Draw the equivalent circuit diagram and output voltage waveforms. 10
- Q3 a) Illustrate the Individual Pulse control scheme and equidistant Pulse control scheme used in HVDC system for generating triggering pulse. 10
- b) Draw and explain the control characteristics of an HVDC system. How to obtain power reversal. Importance of current margin. 10
- Q4 a) Illustrate in detail the over current and over voltage protection methods in HVDC system. 10
- b) Explain in details the commutation failure in inverter side of HVDC system. 10
- Q5 a) Draw and Explain the working of 12 pulse converter circuit. Draw the voltage and current waveforms. 10
- b) Explain the Starting and Stopping of the converter bridge. 10
- Q6 a) Draw and Explain different types of Filters used in HVDC Station. 10
- b) Explain different types of application of HVDC Transmission. 10
