

SUBJECT CODE NO:- P-8205
FACULTY OF ENGINEERING AND TECHNOLOGY
M.E.(Electrical Power Systems) Examination MAY/JUNE-2016
HVDC Transmission
(Revised)

[Time: Three Hours]

[Max Marks:80]

“Please check whether you have got the right question paper.”

- N.B
- i) Solve any two questions from each section.
 - ii) Assume suitable data wherever necessary.

Section A

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| Q.1 | a) Explain with neat diagram the terminal equipment at the converter station. | 08 |
| | b) Explain in detail the operation and analysis of twelve pulse converter. | 12 |
| Q.2 | a) Explain the converter bridge characteristics in detail. | 10 |
| | b) Explain the converter control characteristics in detail. | 10 |
| Q.3 | a) Explain IPC and EPC schemes for firing angle control in detail. | 10 |
| | b) Explain the sources of harmonics and their adverse effects in HVDC system. | 10 |
| Q.4 | a) Explain current and extinction angle control in HVDC system. | 10 |
| | b) What are the different types of dc filters? Explain the criteria of design for DC filters. | 10 |

Section B

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| Q.5 | a) Explain the different configurations of MTDC system. | 08 |
| | b) Explain the current margin control method in MTDC system. | 12 |
| Q.6 | a) Explain a simplified continuous time model and discrete time model for the converter. | 12 |
| | b) Explain the modeling of DC network. | 08 |
| Q.7 | a) Explain converter faults in detail. | 10 |
| | b) Explain the causes of over voltages in the converter station in detail. | 10 |
| Q.8 | Write short notes on | 18 |
| | i. HVDC system simulation | |
| | ii. Advantages and problems associated with earth and sea returns | |
| | iii. Insulation co-ordination | |