

- Q.22 Describe the limitations of HDVD transmission system.
- Q.23 Explain the measurement of High voltage by sphere gaps.
- Q.24 Enlist the applications of MTDC system.
- Q.25 Explain converted transformer.
- Q.26 Write short note on DC filters.
- Q.27 Explain the Starting technique of DC link.
- Q.28 Explain protection against over voltage in HVDC transmission system.
- Q.29 Enlist the converter fault in HVDC transmission system.
- Q.30 Write a short note on measurement of radio interference in HVDC transmission system.
- Q.31 Explain schematic diagram of HVDC converter station.
- Q.32 Describe the effect of source inductance in HVDC transmission system.
- Q.33 Discuss various losses in HVAC and HVDC system.
- Q.34 State the protection for converter transformer.
- Q.35 Enlist control characteristics of DC link.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Explain the twelve pulse line commutate converters unit with the help of configuration.
- Q.37 Illustrate in detail about different types of DC links.
- Q.38 Explain the typical parallel converter MTDC system with the help of schematic diagram. Write also its advantages.

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Roll No.

6th Sem / Branch : Power Eltx. Sub. : High voltage D.C. Transmission

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 High voltage DC transmission requires filters for
- Line commuted converters
 - Voltage sourced converters
 - Both of these
 - None of these
- Q.2 Bulk, power transmission over a long HVDC line is preferred because of
- Simple protection
 - Minimum line power losses
 - Low cost
 - No harmonic filters
- Q.3 Which of the following is not a type of DC link
- Bipolar
 - Homo polar
 - Non polar
 - Mono polar
- Q.4 If only 11th order harmonic is required to be eliminated then which of the following filter is preferred?
- Tuned Filter
 - Damped Filter
 - Both A and B
 - None of above

- Q.5 The main objective of the smoothing reactor
- To reduce the risk of commutation failure
 - Prevent the resonance in the DC circuit
 - To smooth the ripple current in DC
 - All of these
- Q.6 HVDC transmission has _____ as compared to HVAC transmission.
- Smaller transformer size
 - Smaller conductor size
 - Higher corona loss
 - Smaller power transfer capabilities
- Q.7 Which of the following will be provided to reduce the harmonics on the AC side of an HVDC transmission line?
- Synchronous motor is over excited condition
 - Shunt capacitor
 - Static compensator
 - Shunt filters
- Q.8 Sphere gaps are used for measurement
- Instantaneous values of voltage
 - RMS value of voltage
 - Peak values of voltage
 - Average values of Voltage
- Q.9 Modern HVDC systems are
- 3-Pulse converters
 - 6-Pulse converters
 - 24-Pulse converters
 - 12-Pulse converters

- Q.10 The HVDC protections are grouped to:
- DC protections
 - AC protections
 - Apparatus Protective Relays
 - All of these

SECTION-B

Note: Objective type questions. All questions are compulsory.
(10x1=10)

- Q.11 Multi terminal HVDC system for interconnecting two 3 phase AC systems (True/False)
- Q.12 HVDC link has AC system at each end. (True/False)
- Q.13 An mono polar HVDC transmission system has two pole and earth return. (True/False)
- Q.14 The total capital cost of HVDC link is ____ than AC link.
- Q.15 HVDC transmission link does not need any intermediate substation. (True/False)
- Q.16 In 12 pulse converter two 6 pulse converters connected in _____.
- Q.17 Define link inductance.
- Q.18 Corona is more in HVDC transmission (True/False)
- Q.19 During a fault on one of the poles, the Bipolar mode is changed to monopolar mode in HVDC system. (True/False)
- Q.20 Series connected convertors are now preferred for MTDC systems. (True/False)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Write about the need of HVDC transmission system.