

Code: 9A02702

B.Tech IV Year I Semester (R09) Supplementary Examinations June 2017

**FUNDAMENTAL OF HVDC & FACTS DEVICES**

(Electrical &amp; Electronics Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Analyze the bridge circuit of twelve pulse converter and arrive at the equivalent circuit.  
(b) What are the demerits of HVDC power transmission?
- 2 With the help of a block diagram, explain the hierarchical control structure for a D.C link.
- 3 (a) What are the adverse affects of harmonics produced by the HVDC converters?  
(b) Discuss about various types of AC filters which will be employed for a HVDC link.
- 4 Explain various approaches to the solution of AC-DC power flow.
- 5 (a) Explain the concept of power flow in parallel paths and meshed systems.  
(b) Explain loading capability limits.
- 6 What are the objectives of shunt compensation? Describe midpoint compensation of transmission line.
- 7 Explain the following:  
(a) TCSC.  
(b) SSSC.
- 8 Explain how the independent real and reactive power control is done by using UPFC.

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