

**Code No: C0704**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**M.Tech I Semester Examinations March/April 2011**

**FLEXIBLE AC TRANSMISSION SYSTEMS**

**(ELECTRICAL POWER SYSTEMS)**

**Time: 3hours**

**Max.Marks:60**

**Answer any five questions  
All questions carry equal marks**

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1. a) Explain power flow and dynamic stability considerations of a transmission line interconnection.  
b) Compare HVDC & FACTS. [12]
2. Explain basic types of FACTS Controllers. [12]
3. Explain 3-phase full wave bridge converter operation with output wave forms. [12]
4. Explain transformer connections for 12 – pulse, 24 – pulse and 48 – pulse operation. [12]
5. Explain basic concept of Current- Sourced converter (self – and – line commutated).[12]
6. Explain the objectives of shunt- compensation. [12]
7. Explain the operation of (PWM) Pulse – Width Modulation Controller in FACTS. [12]
8. Write short notes on:
  - a) GTO Thyristor – Controlled Series Capacitor (GCSC)
  - b) TCSC (Thyristor – Controlled Series Capacitor)
  - c) TSSC – Thyristor Switched Series Capacitor
  - d) Basic operation and control schemes of GCSC, TSSC, TCSC [12]

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