NR

Code No: 52204/MT

M.Tech. – II Semester Regular Examinations, September, 2008

FLEXIBLE AC TRANSMISSION SYSTEMS
(Common to Power Electronics & Electric Drives/ Power System Control & Automation/ Power & Industrial Drives/ Power Electronics/ Electrical Power Engineering/ Power Engineering & Energy Systems/ Power Systems(High Voltage))

Time: 3hours **Max. Marks:60**

Answer any FIVE questions
All questions carry equal marks
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1.a) Explain the need for transmission interconnections in power systems.
b) For the system shown in figure.1b derive the equations for P & Q at both ends.

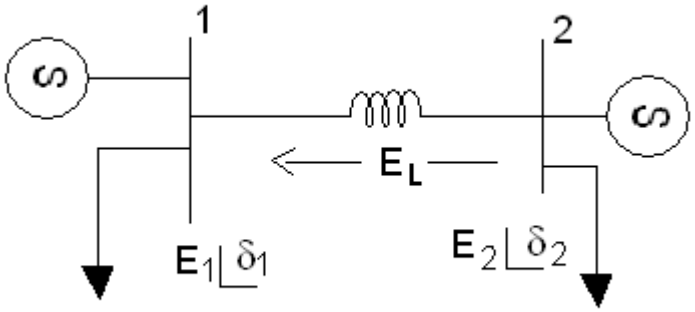

Figure 1b

2.a) Explain the basic concept of voltage sourced converter with the help of neat diagram.
b) Draw the transformer connections for 48 pulse operation and explain.

3.a) Explain the operation of PWM voltage sourced converter.
b) Compare voltage sourced converter with current sourced converter.

4. Briefly explain about the following objectives of shunt compensation.
(a) Mid point voltage regulations for line segmentation.
(b) Power oscillation damping.

5. Explain the following types of var generators.
(a) TSC
(b) Switching converter type var generator.

Contd....2.,

6.a) Explain the transfer function and dynamic performance of SVC and STATCOM.

b) Explain the operating paint control scheme in SVC and STATCOM.

7. Explain the following objectives of series compensation.
   (a) Voltage stability.
   (b) Transient stability improvement
   (c) Sub synchronous oscillation damping.

8. Explain the GCSC and TCSC type series compensators in detail.

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