F 9875

Reg. No.....

Name.....

M.TECH. DEGREE EXAMINATION, FEBRUARY 2012

Second Semester

Branch : Electrical and Electronics Engineering

Specialization : Power Electronics and Power Systems

PEPS 204 – FLEXIBLE A.C. TRANSMISSION SYSTEMS AND POWER QUALITY

(Regular/Supplementary)

Time : Three Hours Maximum : 100 Marks

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

1. (a) Write short notes on the emergence of FACTS.
   (b) Briefly explain about the transmission problems.

   (10 + 10 = 20 marks)

2. (a) Briefly explain about the static series compensation using GCSC.
   (b) Briefly explain about TCSC.

   (10 + 10 = 20 marks)

3. (a) Compare the UPFC with the phase shifters.
   (b) Briefly explain about the capability of UPFC to control independent real and reactive power flow.

   (10 + 10 = 20 marks)

4. (a) What is meant by transients? Briefly explain about the classifications of transients and long duration voltage variations.
   (b) Briefly explain about the flicker.

   (10 + 10 = 20 marks)

5. (a) What is meant by Electric power quality? Write short notes on power frequency variations.
   (b) Explain in detail about the voltage sags and short interruptions.

   (10 + 10 = 20 marks)

6. (a) What is the need of power flow studies? Discuss the applications of harmonic power flow studies.
   (b) Explain the different types of filtering.

   (10 + 10 = 20 marks)

7. (a) Briefly explain about unified power quality conditioners.
   (b) Compare series and shunt compensators.

   (10 + 10 = 20 marks)

[5 × 20 = 100 marks]