

**Government College of Engineering, Aurangabad**  
(An Autonomous Institute of Government of Maharashtra)

**M.E. (EPS) Examination**

**EE 507 FLEXIBLE AC TRANSMISSION SYSTEMS**

Time: Three Hours

19 NOV 2016

Max. Marks: 60

*“Verify the course code and check whether you have got the correct question paper”*

**Instructions:**

1. All questions are compulsory
2. Figures to the right indicate full marks
3. Assume suitable data if necessary & state it clearly
4. Use of non programmable calculator is allowed

**Q.1 Solve any two (6x2=12 M)**

- A. What are the parameters for controlling power in transmission line?
- B. Compare switching type and controlling type of var generators.
- C. Compare HVDC and FACTS

**Q.2 Solve any two (8x2=16M)**

- A. Write a short note on IPFC with the focus on operating principles and characteristics?
- B. Compare the series and shunt compensation.
- C. Explain the Thyristor Controlled and Thyristor Switched reactor.

**Q.3 Solve any two (8x2=16 M)**

- A. Explain Fixed capacitor, thyristor controlled reactor type var generator.
- B. Explain the principle of operation of STATCOM. Explain why voltage source converter is preferred over current source converter in STATCOM
- C. Write a short note on UPFC with focus on operating principles

**Q.4 Solve any two (8x2=16 M)**

- A. Explain thyristor controlled voltage and phase angle regulators.
- B. Explain thyristor switched capacitor.
- C. Discuss the midpoint voltage regulation for shunt compensation?