B.E./Insem. - 27

B.E. (Electrical Engineering)
POWER SYSTEM OPERATION AND CONTROL
(2012 Pattern) (Semester - I)

Time : 1 Hour]   *[Max. Marks : 30*

Instructions to the candidates:

1) *Neat diagrams must be drawn wherever necessary.*

2) *Figures to the right indicate full marks.*

3) *Use of electronic pocket calculator is allowed.*

4) *Assume suitable data, if necessary.*

Q1) a) Define the following terms;   **[3]**

  i)   Steady State Stability

  ii) Transient Stability

  b) Explain point by point method for solution of swing equation.   **[7]**

OR

Q2) a) Explain the equal area criterion of transient stability studies for sudden rise in mechanical input.   **[7]**

  b) Define critical clearing angle and critical fault clearing time.   **[3]**

Q3) a) Explain shunt compensation in the power system.   **[5]**

  b) Explain synchronous condenser in context with reactive power management.   **[5]**

OR

Q4) a) What are the types of SVCs? Explain any one in details.   **[5]**

  b) Explain the problems associated with the series compensation.   **[5]**

P.T.O.

Q5) Explain the working and principle of operation of following FACTS controllers: **[10]**

    a)   STATCOM

    b)   TCSC

<div align="center">OR</div>

Q6) a)   Explain the importance of FACTS controllers in the power system. **[5]**

    b)   Explain the UPFC in detail. **[5]**

<div align="center">● ● ●</div>