

**SUBJECT CODE :- 8082**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**M.E.(Electrical Power Systems) Examination Nov/Dec 2015**  
**Flexible AC Transmission**  
**(Revised)**

[Time: Three Hours]

[Max. Marks: 80]

“Please check whether you have got the right question paper.”

N.B i) Solve any two questions from each section

ii) Assume suitable data wherever necessary.

**SECTION-A**

- |     |  |    |
|-----|--|----|
| Q1. | a) What are the power flow and dynamic stability considerations of a transmission interconnection? Explain | 10 |
|     | b) Compare HVDC and FACTS  | 10 |
| Q.2 | a) Explain the basic operating principle of switched and controlled VAR generators.                        | 10 |
|     | b) How GCSC can be used as a series compensation to improve AC transmission system.                        | 10 |
| Q.3 | Write short notes on any four  | 20 |
|     | i) Various FACTS controllers.  |    |
|     | ii) Thyristor switched series capacitor(TSSC)  |    |
|     | iii) Hybrid phase angle regulators.  |    |
|     | iv) Voltage regulation.  |    |
|     | v) SVC and STATCOM.  |    |

**SECTION-B**

- |     |   |    |
|-----|---|----|
| Q.4 | a) How to improve stability with phase angle and voltage regulators.          | 10 |
|     | b) Explain the operating principle of thyristor controlled breaking resistor. | 10 |
| Q.5 | a) Explain the basic operating principle of UPFC.                             | 10 |
|     | b) Explain in details NGH-SSR damping scheme with its merits and demerits     | 10 |
| Q.6 | Write short notes on any four   | 20 |
|     | i) IPFC   |    |
|     | ii) Thyristor controlled voltage limiters                                     |    |
|     | iii) Sub synchronous resonance  |    |
|     | iv) Static VAR system   |    |
|     | v) Interline power flow controller  |    |