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BIEEE-008

B.Tech. – VIEP – ELECTRICAL ENGINEERING (BTELVI)
Term-End Examination
December, 2015

BIEEE-008 : FLEXIBLE AC TRANSMISSION SYSTEM

Time : 3 hours   *Maximum Marks : 70*

Note : *Attempt* **five** *questions in all. All questions carry equal marks.*

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1. (a) What do you understand by FACTS devices ? Mention their objectives in power system advancement.   7

    (b) Discuss in detail the loadability characteristics of overhead lines.   7

2. (a) Compare the 'SVC' and 'STATCOM'.   7

    (b) Give the principle and working of a 'TSC' shunt compensator with a suitable diagram.   7

3. (a) Explain 'TCR' compensator and its working.   7

    (b) With relevant derivations and diagrams, show that the line length affects the voltage and reactive power of uncompensated line under loading condition.   7

4. (a) Discuss all functional capabilities of 'UPFC' with suitable diagrams. 7

(b) Explain the construction and working of a Static Series Synchronous Compensator (SSSC). 7

5. (a) Explain Thyristor Controlled Braking Resistor (TCBR) in terms of equal area criterion for transient stability. 7

(b) Explain the importance of Interline Power Flow Controller (IPFC) in power systems. 7

6. (a) Draw the basic thyristor voltage regulator configuration for continuous control of output voltage. 7

(b) Write various difficulties associated with the reactive power flow on lines. 7

7. Write short notes on any *two* of the following : *2×7=14*

(a) Thyristor Controlled Voltage Regulator

(b) Battery Energy Storage Systems

(c) Thyristor Controlled Current Limiter