

ROLL No:

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Total number of pages: [2]

Total number of questions: 06

B.Tech. | EE || 6th Sem

Flexible AC Transmission systems

Subject Code: BTEE 605 B

Paper ID:

Time allowed: 3 Hrs

Max Marks: 60

Important Instructions:

- All questions are compulsory
- Assume any missing data

PART A (2×10)

All COs

Q. 1. Short-Answer Questions:

- (i) What is boost factor?
- (ii) What are the features of UPFC?
- (iii) Differentiate between STATCOM and SVC.
- (iv) What is blocked thyristor mode in TCSC operation?
- (v) What is meant by reactive power compensation?
- (vi) Define the term FACTS.
- (vii) What is meant by coordination of FACTS controllers?
- (viii) What is function of converter 1 in UPFC?
- (ix) Draw configurations of TSSC and TCSC.
- (x) What is the application of converter in phase shifter?

PART B (5×8marks)

Q. 2. Explain idea of compensated and uncompensated transmission lines?

CO1

OR

Explain transmission problems and emergence of FACTS

CO1

Q. 3. What is STATCOM? Give its configuration and control strategies with operating characteristics.

CO2

OR

Explain principle of operation, configuration and control of SVC?

CO2

Q. 4. Explain working and characteristics of TCSC.

CO2

OR

Explain variable reactance modeling of TCSC.

CO2

Q. 5. Explain with phasor diagram, different modes of operation of UPFC?

CO3

OR

Explain basic construction, principle of operation and V-I characteristics of STATCOM?

CO3

Q. 6. What is phase shifter? Explain its construction, purpose. Derive steady state model for SPS. CO2

OR

Explain various power circuit configurations of SPS

CO2