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Question Paper Code: 49317

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Electrical and Electronics Engineering

14UEE917 FLEXIBLE AC TRANSMISSION SYSTEM

(Regulation 2014)

Duration: 1:15hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Stability of a transmission line can be increased by
(a) Shunt capacitor (b) Series capacitor (c) Shunt reactor (d) Both 1 and 2
2. The change in electrical properties of a transmission line in order to increase its power transmission capability is known as _____
(a) Load compensation (b) Line compensation
(c) Load synchronism (d) Line synchronism
3. _____ controller is used for power transmission management in multi-machine substation.
(a) IPFC (b) UPFC (c) SVC (d) TCSC
4. _____ is operated without an external electric energy source.
(a) SSSC (b) TCBR (c) SVS (d) IPFC
5. _____ in which the thyristor-switched capacitor is in ON state and current leads the voltage in TCSC operation.
(a) Steady state condition (b) Off-state condition
(c) De blocking – normal condition (d) De blocking – abnormal condition

6. TSSC controls the capacitance in the following mode
 (a) Discrete (b) Continuous
 (c) Both (d) None of the above
7. UPFC is able to perform _____
 (a) Voltage support (b) Power flow control (c) Improved stability (d) All the above
8. A _____ is a shunt compensated reactive power compensation device that is capable of generating /absorbing reactive power.
 (a) BESS (b) STATCOM (c) UPFC (d) IPFC
9. The reactance between two SVC buses are low, then the electrical coupling between the SVCs are
 (a) Low (b) High (c) Infinite (d) 0
10. Subsynchronous range of frequency of oscillation.
 (a) 10-50 Hz (b) 0 Hz (c) 2-10 Hz (d) 0- 3 Hz

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Describe the reactive power control in uncompensated transmission line. (8)
12. Explain the operation of SVC .Discuss the different advantages of slope in dynamic Characteristics of SVC. (8)
13. Explain short note on enhancement of transient stability due to SVC? (8)
14. Explain the operation and the V-I characteristics of STATCOM with diagram? (8)
15. Discuss the operation of the SVC-SVC interaction in detail. . (8)