Reg. No. : | | | | | | | | | | |

Question Paper Code: 31385

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Elective

Electrical and Electronics Engineering

01UEE915 - FLEXIBLE AC TRANSMISSION SYSTEM

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define the term ‘FACTS’.
2. State the salient features of Unified Power Flow Controller (UPFC).
3. Define voltage stability.
4. Mention some of the applications of SVC.
5. List the application of TCSC?
6. State the need of variable series compensation.
7. What is the function of STATCOM?
8. List some of power system performance that can be improved by STATCOM.
9. Write the frequency ranges for different control techniques.
10. List the different types of controller interaction.

PART - B (5 x 16 = 80 Marks)

11. (a) Construct in detail about the classification of different FACTS controllers. (16)

Or

(b) Discuss the effect of shunt and series compensation on power transmission capacity. (16)

12. (a) List and explain the advantages of slope in the dynamic characteristics of SVC. (16)

Or

(b) Explain how SVC can be used to enhance the power transfer capacity of a transmission line. (16)

13. (a) Explain the principle of operation of TCSC. Also explain the various modes of operations. (16)

Or

(b) Enumerate the variable reactance modeling of TCSC to enhance the system stability. (16)

14. (a) Explain the operation and the V-I characteristics of STATCOM with diagram. (16)

Or

(b) Describe the modeling of SSSC for load flow and transient stability analysis. (16)

15. (a) Explain in detail about different control interaction. (16)

Or

(b) Describe in detail about SVC-SVC interactions. (16)

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