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Question Paper Code : 21389

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Eighth Semester

Electrical and Electronics Engineering

EE 2036/EE 809 – FLEXIBLE AC TRANSMISSION SYSTEMS

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Distinguish between reactive power absorbers and reactive power suppliers.

2. State the objectives of FACTS controllers.

3. Draw the block diagram of SVC voltage regulator in Integrated Current droop form.

4. Draw the power angle curve of SMIB system with midpoint SVC.

5. What is the method of including finite delay associated with firing control in TCSC modeling?

6. What is Bang-Bang control in TCSC?

7. List some applications of STATCOM.

8. State the function of converter 1 in UPFC.

9. Mention the possible combinations of FACTS controller interactions.

10. State the use of frequency response curve in the interaction analysis.

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail about Shunt and Series compensation.

Or

(b) Explain in detail about the classification of different FACTS controllers.

12. (a) Discuss in detail about the static and dynamic VI characteristics of SVC.

Or

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

13. (a) Explain the working and characteristics of TCSC.

Or

(b) Explain the variable reactance modelling of TCSC.

14. (a) Explain in detail about the implementation of UPFC.

Or

(b) Explain the working of STATCOM. Compare its performance with SVC.

15. (a) Discuss the different classification of controller interactions.

Or

(b) Analyze in detail about SVC-SVC interaction.

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