Roll No .....

EX - 8303

B.E. VIII Semester

Examination, June 2016

Facts

(Elective - III)

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Distinguish between reactive power absorbers and reactive power suppliers.
   b) Define Reactive Power.
   c) How is the system stability limit improved.
   d) Explain the objectives of Facts controllers in power system network.

OR

Explain uncompensated transmission line.

Unit - II

2. a) State the advantage of slope in the SVC dynamic characteristics.
   b) What are the three basic modes of SVC control?
   c) Define "Effective Short Circuit Ratio". ESCR of SVC.
   d) Discuss the methods of improving transient stability with SVC.

OR

Discuss the control characteristics of SVC connected at mid point of a transmission line.

Unit - III

3. a) Write only the series controllers.
   b) Write the advantages of TCSC.
   c) List the application of GCSC.
   d) Explain the basic principle and different modes of operation in TCSC.

OR

Explain the effect of TCSC in SSR mitigation.

Unit - IV

4. a) What are the different types of modeling methods of FACTS devices?
   b) List some applications of STATCOM.
   c) State the features of IPFC.
   d) Explain in detail about the implementation of UPFC.

OR

Explain the modeling of STATCOM to enhance the system stability.

Unit - V

5. a) Why the term flexible is used in FACTS?
   b) How is co-ordination of FACTS controllers carried out?
   c) What is the main problem with multiple SVCs in a power system.
   d) Explain the control co-ordination of multiple controllers using linear control technique.

OR

Explain in detail about the different factors for SVC-SVC interaction.

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