8E4109

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B. Tech. VIII Semester (Main/Back) Examination-2014

Electrical Engineering

8EE1 EHV AC/DC Transmission

(Common with 8E X1)

Time : 3 Hours **Maximum Marks : 80**

Min. Passing Marks : 24

Instructions to Candidates:

*Attempt any **five** questions, selecting **one** question from **each unit**. All questions carry **equal marks**. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

Unit - I

1. What is the need of EHV transmission & what are the problems associated with it? (16)

OR

1. a) Explain audio and radio noise. (8)
   b) Explain surge impedance loading. (8)

Unit - II

2. a) Explain flat tie line load bias control. (8)
   b) Explain Automatic Generation Control. (8)

OR

2. Describe with neat diagram the speed governing system to control the real power flow in the power system. (16)

Unit - III

3. a) What do you mean by shunt compensation? How it is different from series compensation. (8)
   b) What do you mean by reactive power? Give various sources of reactive power. (8)

OR

3. a) What is the necessity of tap changing transformer? Describe its function in power system. **(8)**

b) Describe FC-TCR scheme with the help of circuit and control characteristic diagram. **(8)**

Unit - IV

4. a) Describe static synchronous compensator (STATCOM). **(8)**

b) Explain Unified Power Flow Controller (UPFC) with suitable diagram. **(8)**

OR

4. a) What are the benefits of using FACTs devices? **(8)**

b) Explain static VAR compensator with the help of schematic diagram. **(8)**

Unit - V

5. a) Describe in brief the different types of DC links. **(8)**

b) What are the advantages & disadvantages of HVDC transmission system? **(8)**

OR

5. a) What is ground return? What are the problems associated with the use of ground as the return conductor. **(8)**

b) Explain with schematic diagram operation of DC converter. **(8)**
