8E8041

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B. Tech. VIII Sem. (Main / Back) Exam., April – May 2018
Electrical & Electronics Engineering
8EX1A EHV AC/DC Transmission
EE, EX

Time: 3 Hours **Maximum Marks: 80**
Min. Passing Marks: 26

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.

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UNIT-I

Q.1 (a) What are the need of EHV transmission and Explain problem associated with it? [8]

(b) Describe in brief the surge impedance loading of a transmission line. [8]

OR

Q.1 (a) Explain audio and radio noise. [8]

(b) Explain the properties of the bundled conductors. How electrostatic field of EHV lines effects human, animals and plants? [8]

UNIT-II

Q.2 (a) Describe the Automatic generation control. [8]

(b) Define the concept of load sharing between parallel operating generators. [8]

OR

Q.2 (a) Explain Tie line and Flat lie line load bias control methods. [8]

(b) Describe the speed governing system to control the real power flow with the help of neat diagram. [8]

UNIT-III

Q.3 (a) Describe thyristorised static VAR compensators TCR, FC-TCR and TSC-TCR in detail. [8]

(b) What do you mean by shunt compensation? How it is different from series compensation. [8]

OR

Q.3 (a) What do you mean by reactive power? Give various sources of reactive power. [8]

(b) Briefly explain the various types of shunt reactors used to limit voltage rise. [8]

UNIT-IV

Q.4 Describe various types of FACTS controllers and explain usefulness in Power System. [16]

OR

Q.4 (a) Draw and explain the V-I characteristics of the STATCOM. [8]

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

UNIT-V

Q.5 (a) What are the advantages and disadvantages of HVDC transmission system? [8]

(b) Draw and explain the converter control steady state characteristics. [8]

OR

Q.5 (a) Describe types of HVDC links with the help of diagrams. [8]

(b) Explain with schematic diagram operation of D.C. converter. [8]
