Total No. of Questions : 5] | Total No. of Printed Pages : 2

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EX–7201

B. E. (Seventh Semester) EXAMINATION, June, 2009

(Electrical & Electronics Engg. Branch)

EHV A. C. AND D. C. TRANSMISSION

(Elective–II)

(EX–7201)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt all questions.

1. Answer any *two* parts of the following : 10 each
   (a) Explain the operation of Graetz circuit. Derive its output voltage.
   (b) Compare EHV A. C. and D. C. system of transmission with respect to their power handling capacity.
   (c) Distinguish the following :
      (i) Homopolar and Bipolar HVDC link
      (ii) Equivalent and Nominal π model of transmission line

2. Answer any *two* parts of the following : 10 each
   (a) FACTS Devices
   (b) Surge Impedance Loading (SIL) and its significance
   (c) Series compensation – Advantages and Disadvantages
   (d) Tuned power lines

P. T. O.

3. Answer any *two* parts of the following : 10 each
   (a) What is travelling wave ? Discuss how it gets attenuated along the transmission line ?
   (b) A 300 km long overhead trasmission line having inductance of 1·25 mH/km and capacitance of 5 nF/km terminates at a load impedance of 2 k Ω. When a surge voltage of 100 kV is applied to the transmission line, obtain the voltage reflected back from the load.
   (c) Explain the mechanism of lighting stroke.

4. Answer any *two* parts of the following : 10 each
   (a) Explain the causes of harmonics in HVDC system.
   (b) Describe the converter firing control system in HVDC transmision.
   (c) Draw a schematic of bipolar HVDC system identifying its main components and also discuss about them.

5. Answer any *two* parts of the following : 10 each
   (a) What are the problems associated with the operation of a d. c. system when connected to a weak a. c. system
   (b) Discuss the technique for controlling the output voltage of converter of HVDC trasmission system.
   (c) Distinguish A. C. load flow and D. C. load flow.