Total No. of Questions : 8] [Total No. of Printed Pages : 2

Roll No. .....

EX–7201

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

(Electrical and Electronics Engg. Branch)

EHVAC AND HVDC TRANSMISSION

(Elective – II)

(EX–7201)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Draw the schematic diagram mentioning various parts of bipolar two terminal H. V. D. C. link and explain the functioning of each component. 10
   (b) What are the limitations of D. C. transmission ? 5
   (c) Explain the advantages of H. V. D.C. cables over EHV A. C. cables. 5
2. (a) Explain how the power handling capacity of EHV lines is depend upon the line parameters. 10
   (b) What is compensation of EHV A. C. transmission system ? Compare different kinds of compensation. 10
3. (a) What is surge impedance and SIL (Surge Impedance Loading) ? Explain the significance of SIL in power system. 10
   (b) What is tuned power line ? Explain how the electrical length of a line can be changed. 10

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4. (a) For travelling waves on a transmission line starting from fundamentals, obtain expressions for reflection and transmission coefficients for voltage and current waves. 10
   (b) Explain why a short length of cable is connected between the dead end tower and the terminal apparatus in a station. 5
   (c) Define BIL. Explain its significance in power system. 5
5. Explain the following :
   (i) FACT concept and application 7
   (ii) Trends in EHV A. C. and D. C. transmission 7
   (iii) Constitution of EHV A. C. lines 6
6. (a) Justify the suitability of three-phase full bridge converter for H. V. D. C. application. 10
   (b) Explain D. C. filters mentioning the criteria about effectiveness of D. C. filters. 10
7. (a) Explain the desired feature of constant current control of EHV D. C. system. 10
   (b) Briefly explain the different types of faults in EHV D. C. system. 10
8. Write short notes on any *two* of the following : 20
   (i) Adverse effects of harmonics in H. V. D. C. system
   (ii) Ignition angle control
   (iii) Use of 12 pulse converter in the modern H. V. D. C. system
   (iv) Problems associated with EHV A. C. voltage