Total No. of Questions : 10] [Total No. of Printed Pages : 3

Roll No. .....

EX–7201(N)

B. E. (Seventh Semester) EXAMINATION, Dec., 2010

(New Scheme)

(Electrical & Electronics Engg. Branch)

EHV AC AND HVDC TRANSMISSION

(Elective–II)

[EX–7201(N)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks. *One* question from each Unit is compulsory.

Unit–I

1. (a) Explain the operation of Garetz circuit with the derivation for output voltage.

   (b) Explain the kinds of d. c. links with their characteristics.

Or

2. (a) Compare the power transfer and reactive power flow in EHV AC and HVDC transmission system.

   (b) A bridge connected rectifier is fed from a 220/110 kV transformer with primary connected to 220 kV. Determine the D. C. output voltage when the cumulation angle is 15° and the delay angle is 30°.

P. T. O.

Unit – II

3. (a) What are FACTS devices ? How are they effective in handling the power flow in the line ?

(b) Explain the working of thyristor-controlled series capacitor.

Or

4. (a) Compare the importance of different types of controllers.

(b) Write a note on static VAR compensator.

Unit – III

5. (a) Discuss the problems associated with the harmonics introduced by the HVDC converters. Explain the remedial measures of harmonics.

(b) With a neat connection diagram explain the multi-terminal D. C. lines.

Or

6. (a) What is ground return ? Explain the problems associated with the use of ground as return conductor.

(b) Write a note on Commutation failure.

Unit – IV

7. (a) Discuss desired features of control of HVDC system.

(b) Explain constant extinction angle control technique used for HVDC system.

Or

8. (a) What are the problems and advantages of parallel operation of HVAC and DC system ?

(b) What are the techniques for controlling the output voltage of converter of HVDC transmission system ?

Unit – V

9. (a) How lightning and switching surges are controlled in a power system ?

(b) Discuss the causes of overvoltage in transmission system.

Or

10. (a) Discuss the development of travelling wave on a overhead line.

(b) What are the factors affecting the function or installation of transmission lines ? Discuss the factors to be considered for them.