Total No. of Questions :5] *[Total No. of Printed Pages :2*

Roll No .....

EX-7102

B.E. VII Semester

Examination, December 2016

EHV AC and DC Transmission

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Give a neat sketch of different HVDC links.
   b) State the advantages of HVDC transmission over EHVAC transmission.
   c) Draw and explain Graetz circuit.
   d) Explain the following terms :
      i) Firing angle control
      ii) Power handling capacity

OR

Explain the limitations and advantages of EHVAC transmission.

Unit - II

2. a) Discuss unified power flow controller.
   b) What is SVC? Explain in brief.
   c) Explain the concept of Thyristor Controlled Series Capacitor (TCSC).
   d) Describe with proper diagram the concept of FACTS and its advantages.

OR

Explain the need of compensation in transmission system. Also explain STATCOM.

Unit - III

3. a) Write the Adverse effect of harmonic generation.
   b) What is ground return? Discuss.
   c) Explain the need of reactive power requirement.
   d) Draw schematic diagram of a typical HVDC converter station explain its parts.

OR

Explain the following :
i) Multiterminal DC lines
ii) Commutation failure

Unit - IV

4. a) What is ignition angle control?
   b) Explain the features of constant current control.
   c) Discuss desired features of constant extinction angle control.
   d) Explain parallel operation of HVAC and DC system. Also explain its advantages.

OR

Explain the following :
i) Problems in parallel operation of HVAC and DC system.
ii) Harmonics protection.

Unit - V

5. a) Discuss effect of lighting, on transmission system.
   b) Explain the concept of attenuation and distortion.
   c) Describe the problems of over voltages in transmission system.
   d) Explain the surge impedance of a transmission line. Derive its value in terms of line constants.

OR

Explain the protective measures for the control of lighting and switching over voltages in transmission system.

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