

Total No. of Questions : 8]

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**MEPE-302(B)**

**M.E./M.Tech., III Semester**

Examination, June 2017

**EHVAC and DC Transmission**

**(Elective-II)**

**Time : Three Hours**

www.rgpvonline.com **Maximum Marks : 70**

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

1. a) Draw the schematic diagrams of various types of EHV DC links and explain the functioning of each component.  
b) Explain the advantages and disadvantages of EHV AC transmission over EHV DC transmission.
2. a) Describe how power handling capacity of EHV transmission lines is evaluated.  
b) Explain the operation of Garetz circuit with the derivation of output voltage.
3. a) What is meant by compensation of EHVAC transmission system? Compare different types of compensation techniques.  
b) Discuss the significance of FACTS devices in EHV power transmission. www.rgpvonline.com
4. a) What are the origin of switching over voltages and temporary over voltages? Compare the characteristics of these over voltages.  
b) Discuss the development of travelling wave on a overhead transmission line.

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5. a) Explain how lighting and switching over voltages are controlled in power systems.  
b) What is ground return? Explain the problems associated with the use of ground as return conductor.
6. a) Explain various types of converter faults and protection strategies against them.  
b) Describe the desired features and characteristics of control for EHV DC system.
7. a) Discuss the advantages and problems of parallel operation of HVDC and HVAC systems.  
b) Explain constant extinction angle control technique for EHV DC system.
8. Write short notes on any two of the following:
  - a) Constant current control technique for EHV DC system.
  - b) Multiterminal dc lines.
  - c) Attenuation and distortion of travelling waves on transmission system.
  - d) Tuned power lines.

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