MEPE-302

Mtech./ME(IIIrd Sem) Examination Feb.-2010

EHV AC AND DC TRANSMISSION

Time: Three Hours Max. marks -70

 Min. marks. -28

Q.1 (a) Draw single line diagram of EHV and A.C. and D.C. links and explain brifly their principal components.

(b) What are the limitation of H.V.D.C. transmission?

(c) Explain the advantages of HVDC cables over EHV A.C. cables.

Q.2 (a) explain how the power handling capacity of EHV lines depends upon the parametres.

(b) Why ground return cannot be used in EHV A.C. transmission systems?

Q.3 (a) discuss various methods of reactive power compensation of EHV A.C. lines.

(b) Explain surge impedance loading in power system.

Q.4 (a) Compare the EHV A.C. and D.C. transmission on the basis of economy and technical Basis.

(b) Draw schematic diagram of HVDC station and explain various components.

(c) What do you understand by ground return in HVDC? Discuss its applications.

Q.5 (a) Explain the conventional control strategies for the control of reactive power in HVDC systems..

(b) What are the functions of the smoothing reactance used in HVDC components?

(c) What ground electrode required in HVDC applications?

Q.6 (a) Discuss constant extinction angle control and constant current control schemes of HVDC.

(b) Explain control characteristics of HVDC.

Q.7 write short notes on any one of the following.

(a) FACT concept and application.

(b) Multiterminal D.C. systems. (c) Converter faults and protection