

Code No: **R42023****R10****Set No. 1****IV B.Tech II Semester Supplementary Examinations, April - 2018****EXTRA HIGH VOLTAGE TRANSMISSION****(Electrical and Electronics Engineering)****Time: 3 hours****Max. Marks: 75****Answer any FIVE Questions****All Questions carry equal marks***********

- 1 a) How conductor resistances affect on EHV transmission lines and also explain skin effect? [8]
b) Write properties of bundled conductors. [7]
- 2 a) Define field of point charge. Explain its properties. [8]
b) Discuss about distribution of voltage gradient on subconductors of a bundle. [7]
- 3 a) Explain generation, limits and measurements of audible noise. [8]
b) Describe the difference between a line spectrum and band spectrum for noise. What is the difference between a pure tone and broad band spectrum? [7]
- 4 a) Explain in detail types of corona discharges from transmission lines. [8]
b) Explain measurement of RI and RIV in HV equipment. [7]
- 5 a) Explain the merits of connecting HVAC systems by HVDC tie-lines. [8]
b) Explain different HVDC links with merits and demerits. [7]
- 6 a) With circuit diagram, explain the principle of operation of firing angle control scheme. [8]
b) Draw Graetz circuit and explain its operation. [7]
- 7 a) What is meant by reactive power control and also give different sources of reactive power? [8]
b) Write short notes on the following [7]
(i) Telephone influence factor. (ii) Harmonic distortion.
- 8 a) Why are harmonics generated in HVDC converter and what are the problems associated with the harmonics? Suggest some remedial measures. [8]
b) What causes harmonics in AC side? How to reduce these harmonics? [7]