Assignment 8

The due date for submitting this assignment has passed.

Due on 2020-03-25, 23:59 IST.

1. A four-pole WYE with a short-circuit ratio AC source in series of 440V (rms) at 50 Hz is feeding a critical load 10kW at 100% power factor. The transformer has a voltage regulation of 2% and a copper loss is 8%. The load is to be fed from a voltage source. Calculate the size of the transformer. (1 point)

Answer: 12.5 kVA

2. In the above question (Q03), calculate the total VA rating of the transformer. (1 point)

Answer: 12.5 kVA

3. A single-phase shunt-connected power quality compensator having a step-up transformer and a DVR connected using two VSCs with a common DC bus. A simple single-phase shunt-connected power quality compensator has a shunt-connected power quality compensator with a total power rating of 50kW and a single-phase shunt-connected power quality compensator with a total power rating of 100kW. The load is to be fed from a voltage source. Calculate the total VA rating of the transformer. (1 point)

Answer: 12.5 kVA