



Indian Institute of Technology Bombay
Department of Electrical Engineering
EE-114 : Power Engineering-1
Assignment: Three Phase Transformers

1. A 60 Hz, 30 MVA, single phase two winding transformer has the following voltage and current ratings:
HV side: 66.4 kV, 451.8 A
LV side: 13.2 kV, 2273 A
The transformer is to be used for transferring power to a 11kV, unity power factor load. Find the primary and secondary current (both magnitude and angle) in fully loaded transformer.
2. Connect three of the 30-MVA single phase transformer treated in question 1 into a Δ/Y three phase bank to be used for transforming power from a 90 MVA, 13.2 kV generator to a 115 kV load. Find
 - (a) the complex turns ratio,
 - (b) all the primary and secondary currents (both magnitude and angle) in fully loaded transformer.