1. For the system shown in Figure 1, Find $|V_{a'b'}|$, $|I_b|$, and $S^{3\phi}$load.

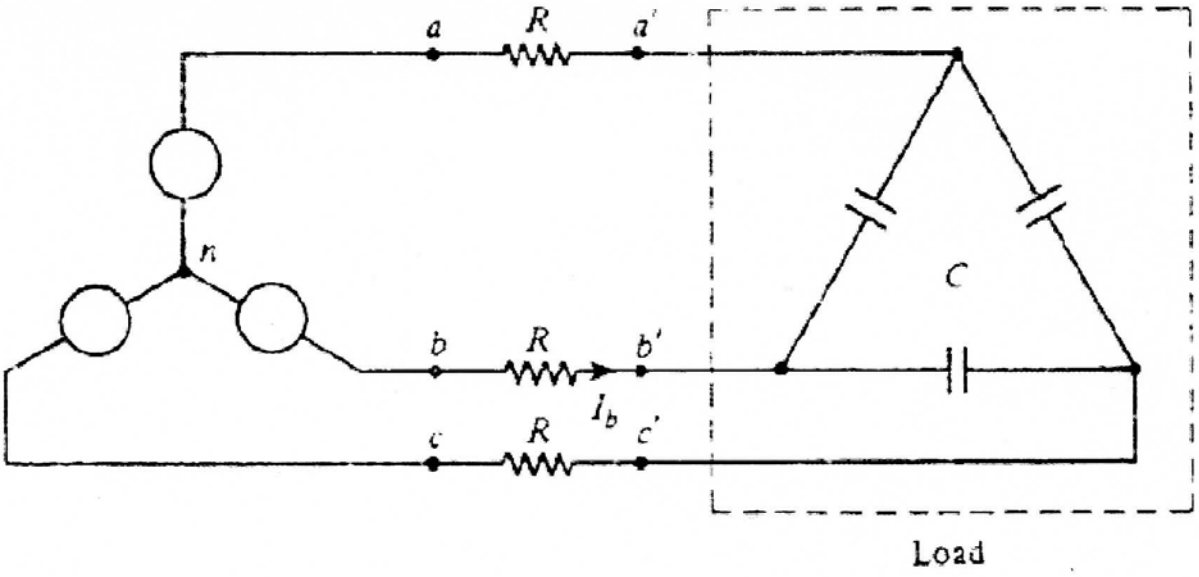

Figure 1

2. For the circuit shown in Figure 2 where $Z_s=2\underline{/84}°$ and $Z_L=50\underline{/60}°$, using the per unit diagrams find the per unit load voltage, current, and complex power for both cases and then convert them to actual values for:

   a) V_B= 1000 V, S_B=100 kVA
   b) V_B= 1320 V, S_B=50 kVA

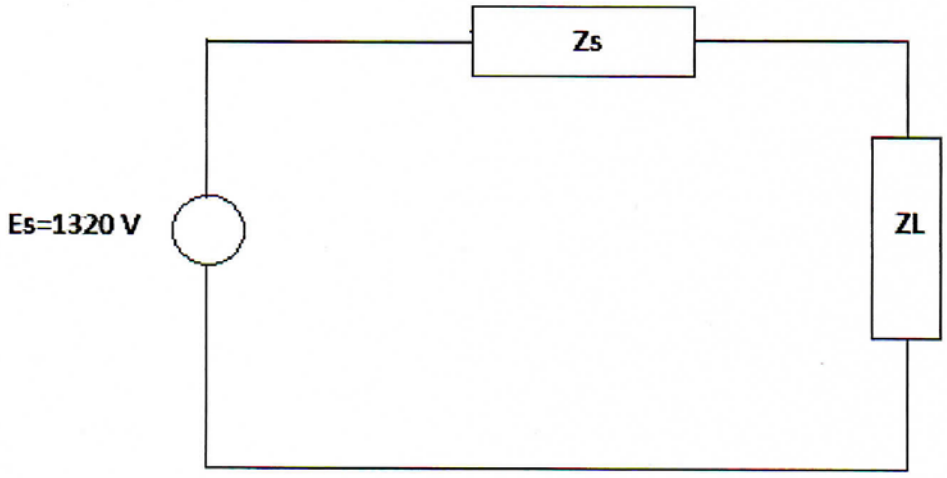

Figure 2

3. Three single-phase two winding transformer, each rated at 10 MVA, 66.4/12.5 KV, 60 Hz, with an equivalent series reactance of 0.12 are connected to form a three-phase bank. The High-Voltage side windings are connected in Y. A three-phase load operating under balanced condition on the high-voltage side receives 450 MVA at p.f. o.6 lagging, with $V_{AN} = 66 \angle 0°$ KV. Determine the voltage V_{an} at the low-voltage side if the low-voltage winding are connected

   a) In Y
   b) In Δ

The base quantities of the transformer are:

$S_{base3\phi}$=600MVA,
V_{baseLL}=175 KV,