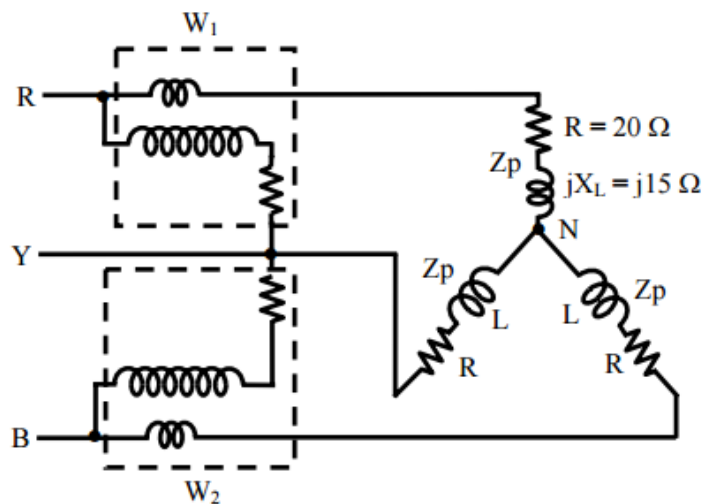


Assignment -3

Module IV: Three Phase Circuits

- Three $100\ \Omega$ resistors are connected first in star and then in delta across 415 V , 3-phase supply. Calculate the line and phase currents in each case and also the power taken from the source.
- A 400V is applied to three star connected identical impedances each consisting of a $40\ \Omega$ resistance in series with $3\ \Omega$ inductive reactance. Find (i) line current (ii) Total power supplied.
- What is the three phase circuit? The load in each branch of star connected three phase circuit consists of $10\ \Omega$ resistance and 0.06 H inductance in series. The line voltage is 430V . Calculate the phase voltage and the phase current.
- Calculate the readings of the two wattmeter (W_1 & W_2) connected to measure the total power for a balanced star-connected load shown in figure fed from a three phase, 400 V balanced supply with phase sequence as R-Y-B. The load impedance per phase is $(20+j15)\ \Omega$. Also find the line and phase currents, power factor, total power, total reactive VA and total VA.



- Calculate the reading of the two wattmeter's (W_1 , and W_2) connected to measure the power for a balanced three-phase load as given in the following. The supply voltage is 200V and the phase. i) The connections of the wattmeter, W_1 – current coil is in phase R, and the voltage coil is across R and Y
ii) The connections of the wattmeter, W_2 – current coil is in phase B, and the voltage coil is across B and Y.

Draw the phasor diagram a. star- connected balanced load with $(9-j5)\ \Omega$ per phase b. delta-connected balanced load with $(14+j14)\ \Omega$ per phase.