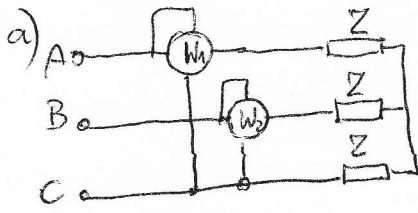


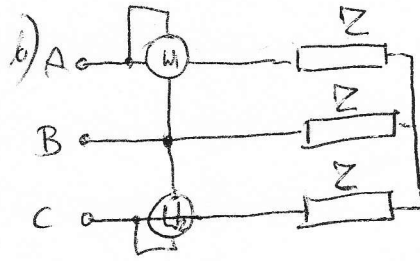
# Circuits & systems No 10

1. Calculate real & reactive power in 3-phase system (a) and the powers indicated by two wattmeters in Aron system



$$P_{W1} = 1000W$$

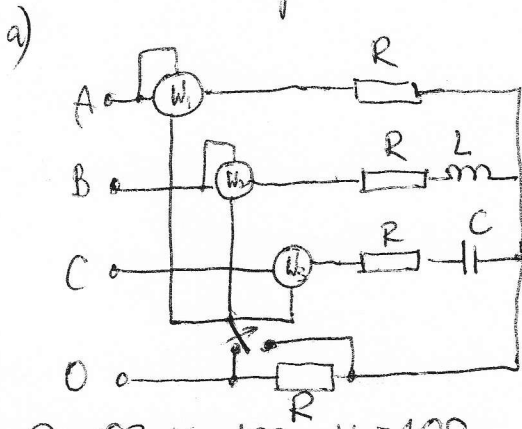
$$P_{W2} = 400W$$



$$|U_{ph}| = 1000V$$

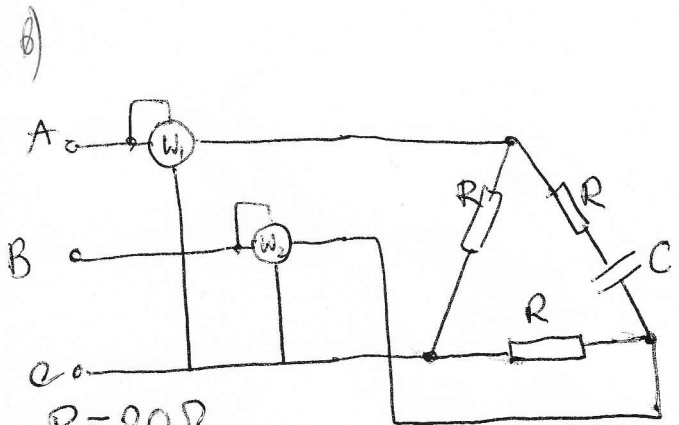
$$Z = 10 + j20$$

2. Calculate power indicated by 3 wattmeters in 3-phase system



$$R = 10\Omega, X_L = 10\Omega, X_C = 10\Omega$$

$$|U_{ph}| = 600V$$



$$R = 20\Omega$$

$$X_C = 20\Omega$$

$$|U_{ph}| = 200V$$

3. The symmetrical 3-phase system has the power  $P = 800W$ , The line voltage  $V_L = 120V$  and the line current  $5A$ . What the power measured by  $W_1$  and  $W_2$  in Aron system?