**Guided Solution for Tutorial 8**

**Question 1**

1. The voltage 100 V given in the question is VL.

2. VAB  = VL∠00 V (Taking VAB as the reference)

3. Find the phase voltage, VAN

∠-300 (In star connection VL leads VPH by 300)

4. VBN  = VAN∠-1200 and VCN  = VAN∠1200 (supply voltage is balanced)

5. Apply the formula

6. To find the line currents apply the formulae

IA , IB , IC

7. To find the neutral current apply the formula

IN = -(IA + IB + IC)

**Question 6**

1. Find the phase voltage using

2. Apply the formula

3. For star connection IL = IPH

4. Apply the total apparent power formula ST = 3 VL IL to find ST.

5. Apply the total reactive power formula QT = 3 VL IL sin to find QT.

6. Apply the total power formula PT = 3 VL IL cos to find PT.

7. Apply the formula W1 = VLILcos ( - 300) to find W1.

8. Apply the formula W2 = VLILcos ( + 300) to find W2.