Lecture 43

2. **In a balanced delta connected three phase load, phase current is 10A and lags behind phase voltage 200V by 60⁰. Determine**
   i) **Three Phase Active Power**
   ii) **Three Phase Reactive Power**
   iii) **Three Phase Apparent Power**

Solution

Given $I_{ph} = 20$ A

$V_{ph} = 200$ V

$\phi = 60°$

Active power $P_{3\phi} = 3 V_{ph} I_{ph} \cos\phi$

$= (3)(200)(20)\cos(60)$

$= 6$ KW

Reactive power $Q_{3\phi} = 3 V_{ph} I_{ph} \sin\phi$

$= 3(200)(20)\sin(60)$

$= 10.39$ KVAR

Apparent power $S_{3\phi} = 3 V_{ph} I_{ph}$

$= 3(200)(20)$

$= 12$ KVA