Three-phase Theory Extra Questions

1. What is the power factor in a circuit where VA=3650 and W=2790?

2. What is the apparent power of a 440V, wye-connected load rated at 50 KW and 90% Power Factor?

3. What is the line current of a 440V, wye-connected load rated at 50 KW and 90% Power Factor?

4. What is the power factor of a 600V, wye-connected circuit supplying 50kW at a line current of 90 amps?

5. What are the two formulas for finding true power in a three-phase circuit?

6. What are the two formulas for calculating the apparent power in a three-phase circuit?

7. What is the line current in a delta connected alternator when the phase current is 26.9 A?

8. What is the phase current in a delta connected alternator when the line current is 103A?

9. What is the phase current and voltage in a Delta connected load when a Y connected supply has a coil voltage of 120 V and a coil current of 34 A?

10. What is the phase current and voltage in a Y connected load when a Delta connected supply has a coil voltage of 120 V and a coil current of 34 A?

11. How much true power is developed in each phase of a three-phase, wye-connected generator if the voltage is 208 V and the current is 15 A with a power factor of 78%?

12. How much apparent power is developed in each phase of a three-phase, wye-connected generator if the line voltage is 208 V and the line current is 15 A with a power factor of 78%?

13. How much true power is developed in all phases of a three-phase, wye-connected generator if the line voltage is 208 V and the line current is 15 A with a power factor of 78%?

14. How much apparent power is developed in all phase of a three-phase generator if the voltage is 208 V and the current is 15 A with a power factor of 78%?
15. What value of vars will correct the power factor of a circuit from 68-93% when the true power is 1500W?

16. What value of vars will correct the power factor of a circuit from 68-93% when the apparent power is 1500VA?

17. What is the current in the phase of a delta connected load where $E_L=440V$ and $Z_p=20$ ohms?

18. What is the current in the phase of a Y connected load where $E_L=440V$ and $Z_p=20$ ohms?