Assignment 8

Due on 2020-05-26, 23:59 EDT

Week 12

Section 3: The Three Phases of the AC Power Transmission System

Question 8.1: A three-phase system has a total balance of 12 MW and a total voltage of 120 V. If the phase-to-neutral voltage is 40 V, what is the phase-to-phase voltage? Give your answer in V.

Answer: 120 V

Question 8.2: In a three-phase system, the line-to-line voltage is 440 V and the line current is 12 A. If the impedance per phase is 40 Ohms, what is the phase current? Give your answer in A.

Answer: 3 A

Question 8.3: A three-phase system has a total load of 60 kW and a total voltage of 220 V. If the phase-to-neutral voltage is 120 V, what is the phase-to-phase voltage? Give your answer in V.

Answer: 200 V

Question 8.4: In a three-phase system, the line-to-line voltage is 440 V and the line current is 12 A. If the impedance per phase is 40 Ohms, what is the total power? Give your answer in kW.

Answer: 60 kW

Question 8.5: A three-phase system has a total load of 60 kW and a total voltage of 220 V. If the phase-to-neutral voltage is 120 V, what is the total power factor? Give your answer in.

Answer: 0.85

Question 8.6: In a three-phase system, the line-to-line voltage is 440 V and the line current is 12 A. If the impedance per phase is 40 Ohms, what is the total voltage drop? Give your answer in V.

Answer: 60 V

Question 8.7: A three-phase system has a total load of 60 kW and a total voltage of 220 V. If the phase-to-neutral voltage is 120 V, what is the total power factor? Give your answer in.

Answer: 0.85

Question 8.8: In a three-phase system, the line-to-line voltage is 440 V and the line current is 12 A. If the impedance per phase is 40 Ohms, what is the total power factor? Give your answer in.

Answer: 0.85

Question 8.9: A three-phase system has a total load of 60 kW and a total voltage of 220 V. If the phase-to-neutral voltage is 120 V, what is the total power factor? Give your answer in.

Answer: 0.85

Question 8.10: In a three-phase system, the line-to-line voltage is 440 V and the line current is 12 A. If the impedance per phase is 40 Ohms, what is the total power factor? Give your answer in.

Answer: 0.85