Chapter 14.2

1. Outline the steps required for paralleling an AC generator with another one already on the bus. Assume that the machine on the bus is operating at 460 V, 60 Hz, and has a 300-kW load at 0.8 pf lagging. Include the correct procedure for dividing the active and reactive components of the bus load equally.
2. Describe the procedure for dividing the kW load between two generators in parallel when the governor controls are too far apart to be operated simultaneously.
3. Why is it good practice to start the breaker-closing operation 1° or 2° before the 0° position?
4. Why is it good practice to balance both the kW and kvar load in proportion to the kW ratings of the machines?
5. Assume that two identical generators are operating in parallel and sharing a small bus load. Outline the correct procedure for removing one of the generators from the bus.
6. What is motorization? Is it harmful? How can it be detected and corrected?
7. What effect do different governor droop characteristics have on the division of oncoming load between generators? Explain with the aid of a sketch.
8. Two generators A and B are in parallel, taking equal shares of the bus load. The governor of prime-mover A has zero speed droop, and the governor of B has a 2 percent speed droop. If an additional 100-kW load is connected to the bus, what percentage of the additional load will be taken by each machine?
9. Generator A is connected to the bus and is supplying the total bus load of 400 kW at a lagging power factor of 0.8. Generator B is paralleled with generator A, and the bus load is divided equally between machines using the governor controls. Is the power factor of each machine 0.8? Explain.
10. What will happen if a generator in parallel with others loses its field excitation?