Unit 25 Electrical Wiring Residential

1. What are the first two concerns when selecting a generator for your home? Which loads are critical and How large a generator is needed
2. What is the name given to the typical job site generator for temporary power? Backup power
3. What is the main disadvantage of Backup power? You have to be there and start it up and plug in the load
4. What is the advantage of standby home generators? Critical loads are connected to a separate panel and you just start the generator, plug it in, then throw the transfer switch
5. What names are given to the separate panelboard? Generator, emergency, and critical load
6. What are the two locations for the transfer switch? Critical load panelboard or separate unit
7. What prevents a feedback of electricity between the generator panel and the utility power? Mechanical Interlock
8. Is it necessary for a transfer switch to break the ungrounded conductor? Yes
9. When connecting a generator after a power interruption what is the proper time to throw the transfer switch? After the generator is plugged in to the system and has been started
10. Is the neutral bus of a critical load panel connected to the enclosure? No (Isolated)
11. What are the qualifications for UL Engine Generators for Portable Use? 15 kW or less, 250 V or less, only receptacle outlets (No direct wired connection)
12. Is it necessary for the transfer switch to break the equipment bonding conductor when a building wiring system is supplied by a portable generator? No
13. What is required on a “Separately Derived System” according to the NEC? Transfer equipment must break all system conductors including the neutral
14. What is required for true “Standby Power”? Permanently installed generator
15. What types of fuel are typically used for permanently installed generators? Natural gas, liquid propane, or diesel
16. How is power switched over to the generator when supply power fails on a permanently installed system? Electronic controller senses loss of power and transfers it (ATS Automatic Transfer Switch)
17. Is the neutral bonding jumper permitted on a portable generator? Yes
18. Is the neutral bonding jumper permitted on a permanently installed generator? No
19. How often should an emergency power supply generator be “Exercised”? (Rule 46-102(1)) At least Monthly
20. When does a transfer switch need to be rated as suitable for use as service equipment? If installed on the Line side of the main service disconnect
21. What is the term used to describe the fact that a switch will disconnect one set of contacts before closing a second one? Break-before-make
22. If automatic transfer equipment is used with a standby system and it is not capable of supplying the full load, what is one option? Load management system
23. What is the main purpose in having the disconnecting means for the standby power located near the main service disconnect? Convenience for fire fighters or others to shut off all the power to the house

24. Which type of transfer switch will permit the user to determine which loads are supplied by the generator? (Not necessarily everything connected in the panel) Manual

25. Are generators typically capable of handling an initial surge above their rated wattage? Yes, up to 50% in many cases

26. Is a permit required for the installation of generator panel and inlet for a connection to a portable generator? Yes (Rule 2-004)