Pretest Module 17 Unit 1 Single-phase Service

1. What does “Acceptable” mean? Acceptable to the Authority enforcing the code.

2. What is grounding? Providing a continuous conductive path to earth.

3. What is bonding? Providing a low-impedance path between non-current-carrying metal parts of an electrical system.

4. What is an identified conductor? Neutral or grounded. (White or natural grey color)

5. Which section of the CEC deals with protection of persons and property? Section 2

6. How much working space is required in front of equipment with pullout drawers? 1 m with the drawers out.

7. What is the maximum ambient temperature in rooms where heat producing electrical equipment is installed? 30°C

8. What is the difference between a type 3 and a type 3R enclosure? Type 3 protects against windblown rain, dust, etc. Type 3R protects against falling rain and external ice.

9. How are sheath currents reduced in wiring systems? Sheaths are grounded at the supply and isolated thereafter.

10. How much current will be on the neutral conductor in a service entrance? Difference between the current on the two phases.

11. What are the three types of conduit acceptable for an underground entrance? Rigid metal, rigid PVC, and electrical non-metallic conduit. (ENT)
12. What types of wire are suitable for an underground entrance? Table 19 Wet locations.

13. What is neutral support cable used for? Neutral conductor and physical support for the other two.

14. How long must the conductors extend out of the weatherhead for a drip loop? 750mm

15. What is the minimum height of the point of connection for a service that crosses a driveway to a residential garage? 4m

16. What is the requirement for a service connection point around windows? 1m away unless up past.

17. What are the voltage divisors in a single-phase service calculation? 120 and 240

18. How much voltage drop is permitted between the point of connection and the point of utilization of equipment? 5%

19. How much voltage drop is permitted in a branch circuit or feeder? 3%

20. Where in the CEC would you look for calculating voltage drop? Table D3

21. What is the maximum distance for a No.10 wire carrying 20 amps at 240 V for a 3% voltage drop? 46.8m

22. What size wire is required to carry 18 amps at 240 V for a distance of 100m with a 3% voltage drop? No.6 AWG

23. What percentage of time is considered a non-continuous load? Not more than one hour in two for smaller loads and not more than three hours in six for loads over 225 amps.
24. What percentage of the basement area of a residence is used for calculating the service demand? **75%**

25. What percentage of the upstairs area of a residence is used for calculating the service demand? **100%**

26. What is the demand wattage for the first 90 m² of a residence? **5000W**

27. What is the demand wattage for the second 90 m² of a residence? **1000W**

28. What is the demand wattage for a 12 000 W range? **6000W**

29. Regardless of the calculation, what is the minimum size service for a residence with a floor area of 90 m²? **100A**

30. Regardless of the calculation, what is the minimum size service for a residence with a floor area of 70 m²? **60A**

31. What is the basic load (w/ m²) for a school? (8-204) **50 W/m²** for classrooms and **10 W/m²** for balance. **Fix**

32. What is the basic load (w/ m²) for a salon? (Table 14) **30 w/m²**

33. What are two situations where circuits of less than 50 volts are required to be grounded? **Circuit is run overhead outside buildings or transformer is supplied by a circuit of more than 120V to ground.**

34. What CEC table is used to determine the size of the neutral conductor for an ungrounded system? **Table 17**

35. Which CEC table is used to determine the size of bonding conductor? **Table 16**

36. Which table in the CEC is used to determine the size of the conductor for a concrete-encased electrode? **Table 43**

37. How far apart must ground rod electrodes be driven? **3 m**
38. How far below ground level must a plate electrode be placed? 600 mm

39. How are conductors larger than No.8 AWG protected at the end of raceways? Insulated-type bushing.

40. What is the maximum spacing for 2” rigid-metal conduit supports? 3 m

41. What is the maximum temperature rating for PVC conduit? 75°C

42. What are three restrictions for the installation of PVC conduit? Hazardous locations, buildings of non-combustible construction, and in thermal insulation.

43. Is it permissible to install ENT tubing in wood frame construction? Yes, as long as it is not in thermal insulation.

44. What is the minimum radius of a bend in conduit or tubing? Table 7

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