

Chapter 5 Test: Distribution Circuits

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Class: ELT 211

Date: _____

Carefully read each question, and circle the letter next to the correct answer.

1. What is the function of the distribution system?
 - a. To carry large blocks of power from generating stations
 - b. To bridge the gap between transmission and distribution substations
 - c. To deliver energy to the customer
 - d. Communication

2. What are the distribution circuits that carry power from the substations to the local load referred to as?
 - a. Taps
 - b. Legs
 - c. Services
 - d. Feeders

3. What voltage range do primary distribution lines typically operate at?
 - a. 120/240v to 600V
 - b. 2400V to 34.5KV
 - c. 34.5KV to 161KV
 - d. Above 161KV

4. What is the typical residential secondary voltage?
 - a. 120/208Y
 - b. 120/240V
 - c. 240/480V

5. If a customer's base voltage is 120V, what range should voltage be within when measured?
 - a. 119-121V
 - b. 114-126V
 - c. 110-130V
 - d. 117-123V

6. What are the advantages of a four wire system over a three wire system?
 - a. Increased power carrying capacity
 - b. Better voltage regulation
 - c. Lower cost
 - d. Both a and b

7. What primary distribution voltage is currently most prevalent?
 - a. 12,470Y/7200V
 - b. 4160Y/2400V
 - c. 24,500Y/14,400V
 - d. 34,500Y/19,920V

8. Of what type are typical residential secondary circuits?
 - a. Single phase, single wire
 - b. Single phase, three wire
 - c. Three phase, three wire
 - d. Three phase, three wire

9. What are the advantages of three phase motors over single phase motors?
 - a. Three phase motors are more efficient
 - b. Three phase motors are less expensive
 - c. Three phase motors are used in household appliances
 - d. Both a and b

10. What must always be done with the secondary neutral conductor?
- It must not be connected to the customer's service
 - It must be used as a phase
 - It must not be connected to the transformer
 - It must be grounded
11. The NEC requires that multi-grounded primary neutral conductors be connected to ground at a minimum of how many times per mile?
- 4
 - 6
 - 2
 - 10
12. As far as underground primary lines are concerned, what is the current trend?
- Less underground is being used
 - More underground is being used
 - Overhead lines are more expensive
 - Overhead lines are found to be more attractive
13. Harmonics in distribution lines can damage what equipment?
- Motors
 - Transformers
 - Capacitor banks
 - All of the above
14. What are some sources of radio interference on distribution lines?
- Loose connections
 - Defective insulators
 - Contamination of insulators
 - All of the above

15. What is Stray voltage?

- a. Voltage without a home
- b. A low level voltage across points
- c. Static
- d. Harmonic voltage

16. Isolation of the primary neutral conductor from the secondary neutral can help alleviate stray voltages.

- a. True
- b. False

17. What is NOT true about Corona?

- a. It can cause radio and TV interference
- b. It is more common on distribution lines than transmission lines
- c. It is caused by ionization of air around conductors
- d. Corona can be visible as a glow at night

18. Which voltage is NOT a common three phase voltage?

- a. 480Y/277V
- b. 277Y/120V
- c. 240V
- d. 480V

19. What is the primary purpose of grounding the neutral on a single phase secondary in multiple locations?

- a. To avoid harmonics
- b. To alleviate inductive reactance
- c. Safety
- d. Because I said so

20. What is the highest distribution system voltage currently in use?

- a. 12,470Y/7200V
- b. 13,800Y/7960V
- c. 24,500Y/14,400V
- d. 34,500Y/19,920V