Title: **Article 90** Test: 1

Course: Electrical Applications Unit: Code CLO: 1

Name ANSWER KEY Station \_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**

1. Student shall identify the correct answers as they relate to the National Electrical Code.

**Assessment**

Students shall demonstrate a comprehension of the objectives listed above by scoring a minimum of 75% on this Test. Grading shall be based on the answer key.

**Instructions**

Select the best answer to each multiple-choice question below.

**Article 90**

1. The gray-shaded areas on the pages of the NEC highlight new editorial changes to the language of the Code.
2. True
3. False
4. The Authority Having Jurisdiction (AHJ) for the enforcement of the code are responsible for\_\_\_\_\_\_\_\_\_\_.
   1. making interpretations of the rules
   2. permitting alternative methods to the rules
   3. approving new products
   4. all the above
5. The NEC applies to the installation of \_\_\_\_\_\_\_\_\_.
   1. electrical conductors and equipment within public and private buildings
   2. conductors and equipment that connect to the supply of electricity
   3. optical fiber cables
   4. all the above
6. NEC Chapters 1 through 4 apply \_\_\_\_\_\_\_\_\_.
   1. generally, to all electrical installations
   2. only to special occupancies and conditions
   3. only to special equipment and material
   4. all the above
7. Factory-installed \_\_\_\_\_\_\_\_ wiring of equipment need not be inspected at the time of installation of the equipment, except to detect alterations or damage.
   1. external
   2. associated
   3. internal
   4. all the above
8. The NEC does not cover installations in \_\_\_\_\_\_\_\_\_\_\_\_.
   1. Recreational Vehicles
   2. Air planes
   3. Floating building
   4. all the above
9. Installations of communications equipment that are under the exclusive control of communications utilities, and located outdoors or in building spaces used exclusively for such installations \_\_\_\_\_\_\_\_ covered by the NEC.
   1. are
   2. are sometimes
   3. are not
   4. may be
10. Examples of “Utilities” may include entities that shall install, operate and maintain \_\_\_\_\_\_\_\_\_.
    1. communication systems (telephone, CATV, Internet, satellite, data)
    2. hardware stores (they sell electrical equipment and wire)
    3. local area network wiring on premises
    4. “b” and/or “c”
11. The N.E.C. contains provisions necessary for safety, which will not necessarily result in \_\_\_\_\_\_\_\_\_.
    1. good service or future expansion of electrical use
    2. efficient use
    3. convenience
    4. all the above
12. The N.E.C. does not apply to Electric Utility-owned wiring and equipment \_\_\_\_\_\_\_\_.
    1. installed by an electrical contractor
    2. installed on public property
    3. consisting of service drops installed by the Utility
    4. in a Utility company’s office building
13. If the N.E.C. requires a new product that is not available when the Code is adopted, \_\_\_\_\_\_\_\_ may allow “older” style equipment to be used as long as it complies with the most recent, previous edition of the National Electrical Code.
    1. a Fire Marshall
    2. the Authority Having Jurisdiction (AHJ)
    3. no one
    4. an Electrical contractor
14. Hazards often occur because of \_\_\_\_\_\_\_\_\_.
    1. overloading of wiring systems by methods not in conformity with the N.E.C.
    2. initial wiring not providing for increases in the use of electricity
    3. both “a” and “b” are correct
    4. neither “a” nor “b” is correct
15. In the NEC, the words \_\_\_\_\_\_\_\_ indicate a mandatory requirement.
    1. shall not
    2. shall
    3. shall be permitted
    4. “a” and/or “b”
16. The N.E.C. does not cover installations in \_\_\_\_\_\_\_\_.
    1. ships
    2. mobile homes
    3. aircraft hangers
    4. both “a” and “b” are correct
17. The Code is intended as a design, specification, and instruction manual for persons who are currently untrained.
    1. True
    2. False
18. Explanatory material, such as informational notes (IN) are enforceable as requirements of the Code and are not just for information only.
    1. True
    2. False
19. When converting units of measure between “SI” and “foot/pound”, \_\_\_\_\_\_\_\_\_ may be utilized.
    1. hard conversion
    2. soft conversion
    3. both hard and soft conversions
    4. neither hard nor soft conversions
20. The NEC covers the following installations: \_\_\_\_\_\_\_\_.
    1. mines
    2. cranes
    3. neither “a” nor “b” are covered
    4. both “a” and “b” are covered
21. When the N.E.C. uses \_\_\_\_\_\_\_\_, it means the identified actions are allowed but are not required.
    1. shall not be required
    2. could
    3. shall be permitted
    4. answers “a” and “c” are correct
22. The requirements in the Code address the fundamental principles of protection and safety contained in \_\_\_\_\_\_\_\_.
    1. “The Shocking Truth about Electrical Safety”
    2. Sec 131 of International Electrotechnical Commission
    3. “OSHA: Guidelines for Industrial Electrical Safety”
    4. none of the above
23. Installations under the control of Electric Utility companies are not governed by the NEC and therefore are not subject to governmental laws and regulations.
    1. True
    2. False
24. Informative Annexes are mandatory enforceable information used for requirements of the Code.
    1. True
    2. False
25. Chapter 8 covers communication systems and is not subject to the requirements of Chapters 1 through 7 except where the requirements are specifically referenced in   
    Chapter 8.
    1. True
    2. False
26. Installations under the exclusive control of an electric utility (and therefore are not bound by the NEC) are \_\_\_\_\_\_\_\_\_.
    1. on properties leased or owned by the Utility for the transmission and distribution of electric energy
    2. the service laterals before the service point
    3. located on legally established easements
    4. all the above

**Instructions**

Match the Chapter contents to the correct Chapter number.

1. Motors; Generators; Electric heaters
   1. Ch. 2
   2. Ch. 3
   3. Ch. 4
   4. Ch. 5
2. Conductor Properties; Tables
   1. Ch. 9
   2. Ch. 8
   3. Ch. 7
   4. Ch. 6
3. Meter Sockets; PVC Conduit
   1. Ch. 6
   2. Ch. 5
   3. Ch. 4
   4. Ch. 3
4. Grounding; Fuses; Service Calculations
   1. Ch. 2
   2. Ch. 4
   3. Ch. 6
   4. Ch. 8
5. Factory installed internal wiring is free from “re”-inspection at the job site (except to detect possible alterations or damage), if the equipment \_\_\_\_\_\_\_\_\_\_.
   1. has been tested by the manufacturing company’s in-house supervisors
   2. is approved by an AHJ hired at the factory to assure quality control
   3. has been listed by a testing laboratory qualified in electrical testing
   4. was manufactured prior to the 1999 NEC
6. The authority having jurisdiction may grant special permissions for installation of conductors and equipment if \_\_\_\_\_\_\_\_\_\_\_.
   1. electrical utility approves
   2. it looks professionally installed
   3. a licensed electrical contractor files for permits
   4. the level of safety can be maintained