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Texas Journeyman Electrician

Practice test

April 6, 2026
Time limit: 240 minutes

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1. NEC 550.10 governs mobile homes. The minimum ampere rating for a mobile home service equipment (feeder assembly) is:

A. 200 amperes, 120/240V, 3-wire
B. 50 amperes, 120/240V, 3-wire
C. 100 amperes, 120/240V, 3-wire
D. 60 amperes, 120/240V, 3-wire

2. Per NEC 250.50, which electrodes must be bonded together to form the grounding electrode system when present at a building?

A. Concrete-encased electrodes are not permitted if a ground rod is installed
B. Only one electrode is needed if it achieves 25 ohms resistance
C. All grounding electrodes present must be bonded together
D. Only the metal underground water pipe is required

3. NEC 110.26 requires a minimum working space depth of how many inches in front of electrical equipment rated 0–150V to ground?

A. 36 inches (3 feet)
B. 48 inches (4 feet)
C. 24 inches (2 feet)
D. 30 inches (2.5 feet)

4. NEC 220.87 provides an optional method for determining existing loads using the maximum demand. This method requires the maximum demand data be based on a minimum of:

A. 90 days of utility billing records
B. 30 days of actual metered demand data
C. No time period specified — any data may be used
D. 1 year minimum of actual metered demand data

5. Per NEC 240.6(A), which of the following is a standard ampere rating for overcurrent protective devices?

A. 90 amperes is not a standard rating
B. 100 amperes

C. 110 amperes
D. 115 amperes

6. According to NEC 310.15(B)(3)(a), what is the ampacity adjustment factor when four current-carrying conductors are installed in a conduit?

A. 60%
B. 70%
C. 50%
D. 80%

7. NEC Table 1 in Chapter 9 specifies the maximum conduit fill percentage for a single conductor as:

A. 40%
B. 80%
C. 53%
D. 31%

8. Per NEC 300.15, a box or conduit body is generally required wherever a conductor is spliced or a device is installed. Which of the following is an exception that does not require a box?

A. Splices in a device box already containing a receptacle
B. Splices in NM cable run through a finished wall
C. Wire nut connections in a conduit run
D. Splices made inside a wireway or cable tray section

9. According to NEC 250.119, an equipment grounding conductor must be identified by which color when it is an insulated conductor?

A. Bare conductor only — insulated EGCs are not permitted
B. Continuous green, or green with one or more yellow stripes
C. Continuous white or gray
D. Any color other than white, gray, or green

10. NEC Article 517 covers health care facilities. In a patient care area (general care), the branch circuits serving patient bed locations must be connected to which type of system?

A. A dedicated isolated power system only
B. Standard branch circuits with no special requirements
C. The life safety branch of the essential electrical system
D. The normal system or equipment system of the essential electrical system

11. NEC 230.23 specifies minimum conductor size for service drop conductors. What is the minimum size copper conductor permitted for a service drop?

A. 8 AWG
B. 10 AWG
C. 12 AWG
D. 14 AWG

12. According to NEC 220.56, the demand factor for commercial kitchen equipment on a single branch circuit or feeder is based on the number of units. For 5 or more pieces of equipment, the demand factor is:

A. 65% demand factor
B. 100% — no demand factor for commercial kitchen equipment
C. 50% demand factor
D. 80% demand factor

13. NEC 250.4 describes the general requirements for grounding and bonding. The primary purpose of grounding electrical systems is to:

A. Enable GFCI devices to detect ground fault currents
B. Reduce electrical energy consumption by lowering resistance
C. Provide a return path for fault current to protect equipment
D. Limit voltage from lightning, line surges, and stabilize voltage to earth

14. According to NEC 314.28, pull boxes for conductors 4 AWG or larger in a straight pull must have a length of at least:

A. 4 times the trade size of the largest raceway entering the box
B. 12 times the trade size of the largest raceway entering the box
C. 6 times the trade size of the largest raceway entering the box
D. 8 times the trade size of the largest raceway entering the box

15. According to NEC 358.10, EMT is permitted for use in which of the following environments?

A. Exposed, concealed, dry, damp, and wet locations when listed, and in concrete
B. Only in commercial buildings — not permitted in residential
C. Dry locations only — not permitted in wet or damp areas
D. Only concealed installations — not permitted exposed

16. NEC 90.4 grants authority to the "authority having jurisdiction" (AHJ) to:

A. Waive specific requirements or permit alternatives when equivalent safety is achieved
B. Amend the NEC to include local requirements
C. Override OSHA standards when they conflict with the NEC
D. Issue licenses to electrical contractors

17. NEC 250.24(A)(5) requires that the neutral conductor at a service be bonded to the equipment grounding conductor and grounding electrode conductor at which location?

A. At the grounding electrode, not inside any panel
B. At the first disconnect downstream of the meter
C. At every panel and subpanel throughout the system

D. At the service equipment (main panel) only

18. According to NEC 240.4, conductors must be protected against overcurrent in accordance with their:

A. Their ampacity as specified in NEC 310.15
B. The rating of the service entrance equipment
C. The next larger standard overcurrent device size
D. The connected load divided by the supply voltage

19. Per NEC 250.28, the main bonding jumper connecting the neutral to the equipment grounding conductor at service equipment must be:

A. A wire, bus, screw, or similar conductor connecting neutral to EGC at service equipment
B. A ground rod driven adjacent to the service panel
C. The grounding electrode conductor itself
D. The equipment grounding bus inside the panel

20. Under NEC Article 210, a 20A branch circuit may serve how many outlet receptacles (each at 1.5A load) before exceeding 80% of circuit capacity for continuous loads?

A. 10 outlets
B. 16 outlets
C. 8 outlets
D. 13 outlets

21. According to NEC 430.6(A), the full-load current (FLC) values used for conductor sizing and overcurrent protection of motors must be taken from:

A. The AHJ's approved motor schedules
B. The manufacturer's published data sheets
C. The motor nameplate full-load current rating
D. NEC Tables 430.247–430.250 (not the motor nameplate)

22. Per NEC 220.61, the neutral load for a service is calculated as:

A. 70% of the total phase load
B. 100% of the total calculated load
C. The sum of all single-phase loads on the neutral
D. Maximum unbalance between any ungrounded conductor and the neutral

23. NEC Article 394 covers concealed knob-and-tube (CK&T) wiring. CK&T wiring is permitted in new construction under which condition?

A. In extensions of existing installations where the existing wiring is in good condition
B. In attic spaces of one-family dwellings only
C. When approved by the authority having jurisdiction for new residential construction
D. When insulation is installed first to protect the conductors

24. According to NEC 240.4(B), when the ampacity of a conductor does not match a standard overcurrent device rating, the next larger standard rating may be used if the conductor ampacity is over:

A. For any conductor when no exact standard size matches
B. When conductor ampacity exceeds 800 amperes
C. When the AHJ approves the installation in writing
D. Only for conductors 2 AWG and larger

25. Per NEC 505.7, in Zone 0 hazardous locations (equivalent to Class I Division 1 highest risk), which protection technique is specifically required?

A. Purged and pressurized enclosures (Ex p)
B. Increased safety (Ex e) equipment
C. Intrinsically safe (Ex ia) protection only
D. Explosion-proof (Ex d) enclosures

26. NEC 410.30 requires luminaires installed in clothes closets to maintain a minimum clearance from storage areas. For a surface-mounted incandescent luminaire, this clearance is:

A. 12 inches from the nearest point of storage space
B. 6 inches from the nearest point of storage space
C. 3 inches from the nearest point of storage space
D. 18 inches from the nearest point of storage space

27. NEC Article 500 classifies hazardous locations based on the type of hazardous material and the likelihood of its presence. A Class I location contains:

A. Radioactive materials requiring shielding
B. Flammable gases or vapors in sufficient quantities to produce explosive mixtures
C. Combustible dust that can be ignited by electrical sparks
D. Ignitable fibers or flyings that may be present

28. According to NEC 200.6, a grounded conductor (neutral) of size 6 AWG or smaller must be identified by:

A. Black insulation with white tape at each termination
B. Continuous green outer finish or bare conductor
C. Continuous white or gray outer finish, or three continuous white/gray stripes
D. Any color other than black, red, or orange

29. Per NEC 210.19(A)(1), branch circuit conductors must have an ampacity not less than the noncontinuous load plus what percentage of the continuous load?

A. 100% noncontinuous load plus 125% of continuous load
B. 80% of continuous load plus 100% of noncontinuous load

C. 100% of all loads with no adjustment required
D. 125% of all loads whether continuous or not

30. Per NEC 430.32(A)(1), overload protection for a motor with a service factor of 1.15 or greater must trip at no more than what percentage of the motor's full-load current?

A. 115% of the motor full-load current nameplate rating
B. 140% of the motor full-load current nameplate rating
C. 125% of the motor full-load current nameplate rating
D. 100% of the motor full-load current nameplate rating

31. According to NEC 501.15, conduit seals are required in Class I Division 1 locations within how many inches of an enclosure containing an arcing device?

A. 18 inches of enclosures containing arcing or sparking devices
B. 24 inches of enclosures containing arcing or sparking devices
C. 36 inches of enclosures containing arcing or sparking devices
D. 12 inches of enclosures containing arcing or sparking devices

32. Per NEC 358.30, EMT (Electrical Metallic Tubing) must be securely fastened within how many feet of each outlet box or fitting?

A. 12 inches of each outlet box or fitting
B. 3 feet of each outlet box or fitting
C. 18 inches of each outlet box or fitting
D. 6 feet of each outlet box or fitting

33. Under Texas law (16 TAC 73), what is the required supervision ratio for a journeyman electrician supervised by a master electrician on a job site?

A. One master electrician may supervise up to 2 journeymen on site
B. One master electrician may supervise up to 4 journeymen on site
C. Each journeyman must be supervised one-on-one by a master
D. One master electrician may supervise an unlimited number of journeymen

34. A 240V, single-phase motor has a nameplate full-load current of 30 amperes. Per NEC 430.52 and Table 430.52, the maximum inverse time circuit breaker size for this motor is:

A. 30 amperes (equal to FLC)
B. 60 amperes (30A × 200%)
C. 100 amperes (30A × 333%)
D. 75 amperes (30A × 250% = 75A — use standard size not exceeding)

35. Per NEC 220.53, the demand factor for four or more fixed appliances (other than ranges, dryers, A/C, or heating) on the same service is:

A. 75% of the total nameplate rating
B. 100% of the total nameplate rating
C. 50% of the total nameplate rating
D. 80% of the total nameplate rating

36. Per NEC 230.46, service entrance conductors must be spliced or connected only using approved methods. Connections in service entrance cable must be made using:

A. Splices are prohibited anywhere in service entrance conductors
B. Soldered connections protected with heat-shrink tubing
C. Listed pressure connectors or other approved methods inside service equipment
D. Wire nuts rated for service entrance use in any accessible location

37. A 1,500 square foot single-family dwelling has a 12 kW range, two small appliance circuits, and one laundry circuit. What is the calculated general lighting load (before demand factors)?

A. 4,500 VA (general lighting only)
B. 9,000 VA (4,500 + 3,000 + 1,500)
C. 7,500 VA
D. 12,000 VA (including range at nameplate)

38. Per NEC 220.12, the general lighting load for a dwelling unit is calculated at a unit load of:

A. 3 VA per square foot
B. 5 VA per square foot
C. 1 VA per square foot
D. 2 VA per square foot

39. NEC 300.15 generally requires a box or conduit body wherever a conductor is:

A. At each splice point, outlet, switch, junction, or pull point
B. At intervals not exceeding 10 feet in any wiring method
C. Only where conductors change direction more than 90 degrees
D. Only at each outlet — splices may be made inside conduit

40. Per NEC 90.2, the NEC does NOT apply to which of the following installations?

A. Temporary power for construction sites
B. Industrial machinery in manufacturing facilities
C. Solar photovoltaic systems on commercial buildings
D. Utility substation and transmission/distribution systems under utility control

41. Per NEC 334.30, Type NM cable must be stapled, strapped, or otherwise secured within how many inches of each box?

A. 12 inches of each cabinet, box, or fitting
B. 18 inches of each cabinet, box, or fitting
C. 24 inches of each cabinet, box, or fitting

D. 6 inches of each cabinet, box, or fitting

42. According to NEC 110.14, what is the required tightening torque for electrical connections?

A. Torque to manufacturer's specifications per listing or labeling instructions
B. No torque requirements — NEC only requires connections be secure
C. Hand-tight plus one quarter turn for all connections
D. 50 in-lbs for all connections 10 AWG and smaller

43. According to NEC Article 100, what is an "overcurrent"?

A. Only the current that flows during a short circuit
B. Current that flows in the wrong direction in a circuit
C. Any current over 20 amperes in a branch circuit
D. Any current exceeding the rated current of equipment or ampacity of a conductor

44. According to NEC 406.4, replacement receptacles in locations requiring GFCI protection must be:

A. An equipment grounding conductor must be installed first
B. A ground fault circuit interrupter is only required in wet locations
C. A GFCI-type receptacle must be installed even without an EGC
D. The original non-grounding receptacle may be reused with a note

45. According to NEC 250.66(A), the minimum size grounding electrode conductor (GEC) for a service with #3/0 AWG copper service entrance conductors is:

A. 8 AWG copper
B. 4 AWG copper
C. 2 AWG copper
D. 6 AWG copper

46. Per NEC 250.102(C), the supply-side bonding jumper for a service must be sized according to:

A. The same size as the largest phase conductor
B. NEC Table 250.66 based on service entrance conductor size
C. The overcurrent device rating protecting the service
D. NEC Table 250.122 based on the service ampere rating

47. Per NEC 300.5, what is the minimum burial depth for a branch circuit rated 120V or less, installed in rigid metal conduit (RMC), in a residential driveway?

A. 12 inches
B. 6 inches
C. 24 inches
D. 18 inches

48. Per NEC 330.30, Type MC cable must be supported and secured at intervals not exceeding:

A. 4.5 feet, and within 12 inches of every box
B. 6 feet, and within 12 inches of every box or fitting
C. 3 feet, and within 6 inches of every box or fitting
D. 10 feet, and within 3 feet of every box or fitting

49. NEC 230.24(B) requires overhead service conductors to maintain a minimum clearance of how many feet above a flat roof where the voltage does not exceed 300V?

A. 12 feet
B. 8 feet
C. 10 feet
D. 3 feet

50. Per NEC 210.52, all kitchen countertop receptacles must be GFCI protected. Which NEC article covers this requirement?

A. NEC 406.4
B. NEC 210.52
C. NEC 300.11
D. NEC 210.8

51. Per NEC 110.12, electrical equipment must be installed in a:

A. Neat and workmanlike manner
B. Plenum-rated space regardless of location
C. Concealed location whenever possible
D. Metal enclosure with tamper-resistant hardware

52. NEC 700.12 requires emergency systems to be capable of supplying power within how many seconds of normal power failure?

A. 10 seconds after normal power failure
B. 30 seconds after normal power failure
C. 5 seconds after normal power failure
D. 60 seconds after normal power failure

53. According to NEC Article 100, which of the following best defines "ampacity"?

A. The short-circuit current capacity of a conductor
B. The voltage a conductor can withstand without insulation breakdown
C. The maximum current a conductor can carry continuously without exceeding its temperature rating
D. The resistance of a conductor per unit length at 20°C

54. According to NEC 300.17, what governs the number and size of conductors permitted in a raceway?

A. No more than 10 conductors regardless of size
B. Only the AHJ has authority to determine fill limits
C. The applicable NEC fill tables based on wiring method and conductor type
D. 50% of the conduit cross-sectional area for all wiring methods

55. Per NEC Article 100, a "dwelling unit" is defined as:

A. A structure with at least two bedrooms and one bathroom
B. Any occupancy classified as residential by the local building code
C. A single unit with complete independent living facilities including sleeping, cooking, and sanitation
D. Any building used primarily for residential occupancy

56. The NEC requires that all conductors be assumed to be copper unless specifically noted otherwise. Where is this stated?

A. NEC 100 definitions — aluminum must always be specifically labeled
B. NEC 310.14 — copper is the default conductor material when not specified
C. NEC 240.6 — standard conductor materials for overcurrent devices
D. NEC 90.2 — copper required for all building wiring

57. According to NEC 250.53(A)(3), a ground rod electrode must be driven to a minimum depth of:

A. 10 feet
B. 4 feet
C. 6 feet
D. 8 feet

58. According to NEC 230.79, the minimum ampere rating for a service disconnect for a one-family dwelling is:

A. 150 amperes, 3-wire
B. 100 amperes, 3-wire
C. 200 amperes, 3-wire
D. 60 amperes, 2-wire

59. Per NEC 336.10, Type TC (Tray Cable) is permitted to be used in:

A. Cable trays, raceways, outdoors on a messenger wire, and Class I Division 2 locations
B. Direct burial in wet soil as a substitute for USE cable
C. Any location where NM cable is permitted
D. Class I Division 1 locations without additional protection

60. Per NEC 250.104(A), metal water piping within a building must be bonded to the electrical system. The bonding conductor must be sized per:

A. NEC Table 250.122 based on the circuit breaker or fuse protecting the supply circuit
B. NEC Table 250.66 based on the service entrance conductor size
C. Always a minimum of 6 AWG copper regardless of circuit size
D. The same size as the grounding electrode conductor

61. Per NEC 314.16, the maximum fill for a standard 4-inch square box (21 cubic inch) with 14 AWG conductors is how many conductors?

A. 14 conductors
B. 7 conductors
C. 10 conductors (21 cu in ÷ 2.0 cu in per #14 AWG = 10)
D. 12 conductors

62. NEC 352.30 requires PVC conduit (Schedule 40) to be supported within how many feet of each outlet box or conduit body?

A. 6 feet of each outlet box or conduit termination
B. 5 feet of each outlet box or conduit termination
C. 3 feet of each outlet box or conduit termination
D. 12 inches of each outlet box or conduit termination

63. NEC 230.70 requires the service disconnecting means to be installed:

A. At the center of the building for equal circuit length distribution
B. Adjacent to the electric utility meter, always outdoors
C. In a locked mechanical room accessible only to licensed electricians
D. Outside the building or nearest the point of service entrance, inside

64. NEC 110.14 requires that conductor terminations be made at devices listed for the temperature rating of the conductor. If a 75°C-rated conductor terminates on a 60°C-rated terminal, the conductor ampacity must be based on:

A. The 90°C column since the conductor is rated 90°C
B. The 75°C column of Table 310.16
C. The average of the conductor and terminal ratings
D. The 60°C column — the lowest rating of any connected termination

65. NEC 220.52 requires that two small appliance branch circuits be included in the load calculation for a dwelling. Each circuit must be calculated at:

A. 2,000 VA per circuit
B. 750 VA per circuit
C. 1,000 VA per circuit
D. 1,500 VA per circuit

66. NEC 240.83(E) requires circuit breakers used as switches in 120V and 277V fluorescent lighting circuits to be marked:

A. "HACR" when used in heating, air conditioning, or refrigeration equipment
B. "AF" when used in arc fault circuit protection
C. "GFI" when providing ground fault protection
D. "SWD" (Switching Duty) when used as a switch in fluorescent lighting circuits

67. NEC 210.8(A) requires GFCI protection for receptacles in which locations in dwelling units?

A. Bathrooms, garages, outdoors, crawl spaces, unfinished basements, kitchen countertops, and wet locations
B. Only bathrooms and kitchen countertops within 6 feet of a sink
C. All receptacles throughout the entire dwelling unit
D. Only exterior and garage locations

68. Per NEC 300.4, where must cables be protected when passing through holes in wood framing members less than 1.25 inches from the nearest edge?

A. A steel plate or bushing at least 1/16 inch thick
B. No protection required if the hole is drilled cleanly
C. A plastic nail plate of any thickness
D. Additional layers of NM cable sheathing

69. Per NEC Article 100, what is the difference between "grounded" and "grounding"?

A. "Grounded" = connected to earth; "Grounding" = the act of establishing that connection
B. "Grounding" is only required for service equipment
C. Both terms mean the same thing and are interchangeable
D. "Grounded" means energized; "Grounding" means de-energized

70. According to Texas Occupations Code Chapter 1305, a journeyman electrician in Texas is licensed by:

A. Texas Workforce Commission
B. Texas Department of Insurance (TDI)
C. Texas State Board of Plumbing Examiners
D. Texas Department of Licensing and Regulation (TDLR)

71. According to NEC 220.14(J), each sign and outline lighting outlet must be calculated at a minimum of:

A. 1,200 VA
B. 600 VA
C. 2,400 VA
D. 1,500 VA

72. NEC 240.21 establishes tap conductor rules. A 10-foot tap rule allows smaller conductors if they:

A. Are protected by a fuse at the tap point equal to conductor ampacity
B. Are installed in conduit and terminate in a disconnect within 10 feet
C. Are the same size as the feeder conductors they tap from
D. Have ampacity at least 1/10 of the feeder OCP rating and be enclosed in raceway

73. According to NEC 220.55 and Table 220.55, when calculating the demand load for electric ranges, the demand factor for a single household range rated not over 12 kW is:

A. 8 kW maximum demand (Column C)
B. 10 kW
C. 12 kW (full nameplate rating, no reduction)
D. 6 kW

74. Per NEC 225.18, what is the minimum vertical clearance required for service-entrance conductors crossing a residential driveway?

A. 8 feet
B. 18 feet
C. 12 feet
D. 10 feet

75. Per NEC 690.12, rapid shutdown of PV systems on buildings requires that PV system conductors within the array boundary be reduced to what voltage within 30 seconds of rapid shutdown initiation?

A. 120V or less within 30 seconds
B. 80V or less within 30 seconds
C. 30V or less within 60 seconds
D. 0V within 30 seconds

76. According to NEC 376.22, the maximum fill percentage for wireways (wiring troughs) is:

A. 20% of the interior cross-sectional area
B. 53% for a single conductor, 40% for multiple
C. 80% of the interior cross-sectional area
D. 40% of the interior cross-sectional area

77. According to NEC 250.122, what is the minimum size equipment grounding conductor (EGC) required for a circuit protected by a 60-ampere overcurrent device?

A. 8 AWG copper
B. 6 AWG copper
C. 12 AWG copper
D. 10 AWG copper

78. According to NEC 230.42, the minimum ampacity of service entrance conductors must be sufficient to carry:

A. Equal to the nameplate rating of the service disconnect
B. 125% of the largest motor load plus 100% of other loads
C. No less than 200 amperes for all residential services
D. Sufficient to carry the calculated load served

79. NEC Article 334 covers Type NM cable. In which of the following locations is NM cable NOT permitted?

A. Commercial buildings more than three floors above grade
B. Attic spaces accessible only through a scuttle hole
C. One-family dwellings of any height
D. Concealed in dry locations in residential construction

80. NEC 240.4(D) limits the maximum overcurrent protection for 14 AWG copper conductors to:

A. 25 amperes
B. 30 amperes
C. 15 amperes
D. 20 amperes

81. NEC 215.2(A)(1) requires that feeder conductors have an ampacity not less than what percentage of the noncontinuous load plus what percentage of the continuous load?

A. 125% of all loads whether continuous or not
B. 80% of noncontinuous load plus 100% of continuous load
C. 100% of all loads with no continuous load adjustment
D. 100% of noncontinuous load plus 125% of continuous load

82. Per NEC 220.42, the demand factor applied to the first 3,000 VA of general lighting load in a dwelling is:

A. 100% (no reduction)
B. 35%
C. 50%
D. 75%

83. According to NEC Article 100, what is the definition of a "branch circuit"?

A. Any conductor carrying current to a load
B. The conductors between the main breaker and a subpanel
C. The circuit conductors between the final overcurrent device and the outlet(s)
D. The conductors between the utility transformer and the service panel

84. Per NEC 250.53(A)(2) Exception, if a single ground rod does not achieve a resistance of 25 ohms or less to ground, what must be done?

A. Replace the rod with a metal underground water pipe
B. No additional action needed — 25 ohms is a target, not a requirement
C. Drive the rod deeper until resistance is achieved
D. Install one additional electrode at least 6 feet from the first

85. According to NEC 110.3(B), what must be done with listed or labeled equipment?

A. Tested by the AHJ before installation
B. Installed in accordance with listing or labeling instructions
C. Used only in wet locations to avoid corrosion
D. Approved by the manufacturer on a case-by-case basis