

# TEST BANK



NETWORKING

## Guide to Telecommunications Technology

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## ch02

### True/False

Indicate whether the statement is true or false.

- \_\_\_ 1. Static electricity is the release of an accumulated charge in some material or object.
- \_\_\_ 2. Neutrons possess no charge and are said to be neutral.
- \_\_\_ 3. Current electricity is the controlled movement of an electrical charge along the atoms of a conductor.
- \_\_\_ 4. The pressure that the electric current exerts on its conductor is known as amperes.
- \_\_\_ 5. A charge is that characteristic of a material which enables it to exert force on another material.
- \_\_\_ 6. When current is manipulated to transmit information, it becomes a circuit.
- \_\_\_ 7. A signal is a closed connection between an electric source and a load over which current may flow.
- \_\_\_ 8. Charged particles either repel or attract each other without ever making physical contact.
- \_\_\_ 9. Resistance is measured in volts.
- \_\_\_ 10. In alternating current (AC), an electrical charge flows steadily in one direction over the conductor.

### Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

- \_\_\_ 11. A material over which electric current readily flows is known as a(n) conductor.  
\_\_\_\_\_
- \_\_\_ 12. Grounding is the use of a conductor to divert unused or potentially harmful charges to an insulator, where they will be stopped or absorbed. \_\_\_\_\_
- \_\_\_ 13. The pressure that an electric current exerts is known as amperes. \_\_\_\_\_
- \_\_\_ 14. The charge flowing through a wire each second is measured in volts. \_\_\_\_\_
- \_\_\_ 15. Resistance is a material's opposition to electricity. \_\_\_\_\_
- \_\_\_ 16. In alternating current, an electrical charge flows steadily in one direction over the conductor.  
\_\_\_\_\_
- \_\_\_ 17. In direct current, the electrical charge flows in one direction first, then in the opposite direction, then back in the first direction. \_\_\_\_\_
- \_\_\_ 18. The term frequency refers to the number of cycles in a sine wave that are completed within a specified time frame. \_\_\_\_\_
- \_\_\_ 19. The distance between corresponding points on a cycle is called its wavelength.  
\_\_\_\_\_
- \_\_\_ 20. Current electricity is the release of an accumulated charge in some material or object.  
\_\_\_\_\_

### Multiple Choice

Identify the choice that best completes the statement or answers the question.

- \_\_\_ 21. The characteristic of a material that enables it to exert force on another material is known as:  
a. Charge  
b. Protons  
c. Electrons  
d. Neutrons
- \_\_\_ 22. Which of the following are found at the center of an atom?  
a. Proton  
b. Charge  
c. Neutron  
d. a and c only
- \_\_\_ 23. Which of the following is a release of an accumulated charge in some material or object?  
a. Electrostatic charges  
b. Charge  
c. Static electricity  
d. Current electricity
- \_\_\_ 24. Because the charges inherent in electrons and protons are bound to balance each other through static electricity, these charges are also called:  
a. Current electricity  
b. Electrostatic charges  
c. Grounding  
d. Electric current
- \_\_\_ 25. Which of the following carries a positive charge?  
a. Neutrons  
b. Electrons  
c. Protons  
d. None of the above
- \_\_\_ 26. Which of the following refers to the controlled movement of an electrical charge?  
a. Current electricity  
b. Electrostatic charges  
c. Static electricity  
d. Signal
- \_\_\_ 27. Which of the following is a closed connection between an electric source and a load over which current flows?  
a. Signal  
b. Circuit  
c. Conductor  
d. Grounding
- \_\_\_ 28. When current is manipulated to transmit information, it becomes:  
a. Signal  
b. Circuit  
c. Conductor  
d. Static electricity
- \_\_\_ 29. The material over which electric current readily flows is known as:  
a. Signal  
b. Circuit  
c. Voltage  
d. Conductor
- \_\_\_ 30. The use of a conductor to divert unused or potentially harmful charges to an insulator, where they will be stopped or absorbed is referred to as:  
a. Resistance  
b. Voltage  
c. Grounding  
d. Circuit
- \_\_\_ 31. The pressure that the electric current exerts on its conductor is known as:  
a. Voltage  
b. Amperes  
c. Hertz  
d. Ohms
- \_\_\_ 32. Materials that do not allow electric current to flow easily are called:  
a. Volts  
b. Semiconductors  
c. Insulators  
d. Conductors
- \_\_\_ 33. The charge flowing through a wire each second is referred to as:  
a. Resistance  
b. Hertz  
c. Amperes  
d. Volts
- \_\_\_ 34. A material's opposition to current is referred to as:  
a. Resistance  
b. Amperes  
c. Ohms  
d. Capacitance
- \_\_\_ 35. Resistance is measured in:

- a. Amperes  
b. Hertz
- c. Volts  
d. Ohms
- \_\_\_ 36. Which of the following allows an electrical charge to flow steadily in one direction over a conductor?  
a. DC  
b. AC  
c. Generator  
d. Frequency
- \_\_\_ 37. Which of the following allows an electrical charge to flow in one direction first, then in the opposite direction, then back in the first direction?  
a. DC  
b. AC  
c. Generator  
d. Frequency
- \_\_\_ 38. Which of the following refers to the number of cycles in a sine wave that are completed within a specified time frame?  
a. Generator  
b. Frequency  
c. Cycle  
d. Oscillation
- \_\_\_ 39. Which of the following refers to a specific section of a wave, beginning at its starting point, up to its highest amplitude, down to its lowest amplitude, then back to its starting point?  
a. Cycle  
b. Frequency  
c. Generator  
d. Oscillation
- \_\_\_ 40. Frequency is measured in:  
a. Amperes  
b. Amplitude  
c. Volts  
d. Hertz
- \_\_\_ 41. The distance between corresponding points on a cycle is called its:  
a. Converter  
b. Wavelength  
c. Capacitor  
d. Capacitance
- \_\_\_ 42. A device that changes AC to DC is referred to as:  
a. Converter  
b. Generator  
c. Circuit  
d. Conductor
- \_\_\_ 43. The ability for an electric circuit to accumulate or store a charge is referred to as:  
a. Farads  
b. Capacitance  
c. Capacitor  
d. Signal
- \_\_\_ 44. Which of the following stores an electrical charge?  
a. Circuit  
b. Converter  
c. Generator  
d. Capacitor
- \_\_\_ 45. When electrons move, they produce:  
a. Electromagnetism  
b. Magnetic field  
c. Electromagnet  
d. Inductor
- \_\_\_ 46. The magnetic effect produced by an electric current is known as:  
a. Electromagnetism  
b. Magnetic field  
c. Capacitor  
d. Inductance
- \_\_\_ 47. When used in an electric circuit, a coil of wire is called a(n):  
a. Electromagnet  
b. Transformer  
c. Converter  
d. Inductor
- \_\_\_ 48. Which of the following is an electrical wave that contains two electromagnetic coils and transfers electric energy from one coil to another?  
a. Converter  
b. Circuit  
c. Transformer  
d. Electromagnet
- \_\_\_ 49. Which of the following measures capacitance?  
a. Hertz  
b. Volt  
c. Farad  
d. Henry

- \_\_\_ 50. Which of the following measures inductance?  
a. Volt  
b. Ampere  
c. Henry  
d. Watt
- \_\_\_ 51. Which of the following measures resistance?  
a. Volt  
b. Ampere  
c. Watt  
d. Ohm
- \_\_\_ 52. Which of the following measures Power?  
a. Volts  
b. Watt  
c. Farad  
d. Ohm
- \_\_\_ 53. Which of the following measures frequency?  
a. Watt  
b. Henry  
c. Hertz  
d. Ohm
- \_\_\_ 54. Which of the following is a component that contributes no power gain to a circuit?  
a. Passive device  
b. Active device  
c. Diode  
d. Transistor
- \_\_\_ 55. An electronic component that allows current to flow in only one direction is referred to as:  
a. Transistor  
b. Diode  
c. Resistor  
d. Circuit

### Yes/No

*Indicate whether you agree with the statement.*

- \_\_\_ 56. Are protons found at the center of an atom?
- \_\_\_ 57. Is the term conductor used to describe a material over which current flows?
- \_\_\_ 58. Is voltage measured in amperes?
- \_\_\_ 59. Can you use the words current electricity and electric current interchangeably?
- \_\_\_ 60. Is resistance measured in volts?
- \_\_\_ 61. Does the term capacitance refer to the number of cycles in a sine wave that are completed within a specified time frame?
- \_\_\_ 62. Are electrons found at the center of an atom?
- \_\_\_ 63. Does the term electromagnetic refer to a wave that contains a combination of electric and magnetic forces?
- \_\_\_ 64. When current is manipulated to transmit information, does it become a signal?
- \_\_\_ 65. Does a voltmeter measure the resistance of a circuit?

### Completion

*Complete each statement.*

66. A(n) \_\_\_\_\_ is the characteristic of a material that enables it to exert force on another material.
67. \_\_\_\_\_ is the release of an accumulated charge in some material or object.

68. Because the charges inherent in electrons and protons are bound to balance each other through static electricity, these charges are also called \_\_\_\_\_.
69. \_\_\_\_\_ is the controlled movement of an electrical charge along the atoms of a conductor.
70. A(n) \_\_\_\_\_ is a closed connection between an electric source and a load over which current may flow.
71. A material over which electric current readily flows is known as a(n) \_\_\_\_\_.
72. When current is manipulated to transmit information, it becomes a(n) \_\_\_\_\_.
73. \_\_\_\_\_ is the use of a conductor to divert unused or potentially harmful charges to an insulator, where they will be stopped or absorbed.
74. The pressure that an electric current exerts on its conductor is known as \_\_\_\_\_.
75. \_\_\_\_\_ is a material's opposition to electric current.

### Matching

*Match each correct item with the statement below.*

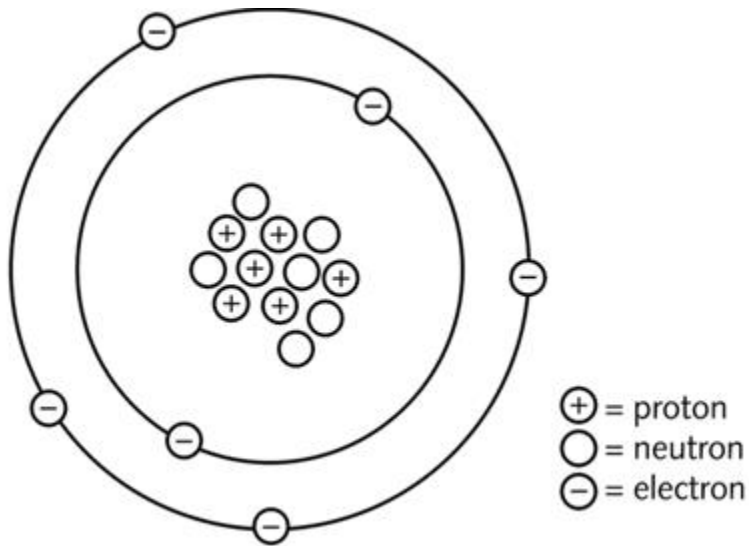
- |                       |               |
|-----------------------|---------------|
| a. Static electricity | f. Circuit    |
| b. Grounding          | g. Insulators |
| c. Voltage            | h. Neurons    |
| d. Resistance         | i. Amperes    |
| e. Conductor          | j. Signal     |

- \_\_\_ 76. Possess no charge and are said to be neutral.
- \_\_\_ 77. The release of an accumulated charge in some material or object.
- \_\_\_ 78. A closed connection between an electric source and a load over which current may flow.
- \_\_\_ 79. When current is manipulated to transmit information.
- \_\_\_ 80. A material over which electric current readily flows.
- \_\_\_ 81. The use of a conductor to divert unused or potentially harmful charges to an insulator, where they will be stopped or fully absorbed.
- \_\_\_ 82. The pressure that the electric current exerts on it conductor.
- \_\_\_ 83. Materials that do not allow electric current to flow easily.
- \_\_\_ 84. A material's opposition to electric current.
- \_\_\_ 85. Measures current.

### Short Answer

86. The release of an accumulated charge in some material or object is called:
87. What is the name given to a closed connection between an electric source and a load over which current flows?
88. When current is manipulated to transmit information, what is the term used to describe it?
89. What is the term used to describe a material over which electric current readily flows?
90. What is commonly equated to the strength of an electric current?

91. What is the term used to refer to a material's opposition to current?
92. What is resistance measured in?



93. According to the figure above, what is found at the center of an atom?
94. What term is used to refer to the number of cycles in a sine wave that are completed within a specified time frame?

**ch02**  
**Answer Section**

**TRUE/FALSE**

- |            |        |         |
|------------|--------|---------|
| 1. ANS: T  | PTS: 1 | REF: 41 |
| 2. ANS: T  | PTS: 1 | REF: 40 |
| 3. ANS: T  | PTS: 1 | REF: 41 |
| 4. ANS: F  | PTS: 1 | REF: 43 |
| 5. ANS: T  | PTS: 1 | REF: 40 |
| 6. ANS: F  | PTS: 1 | REF: 42 |
| 7. ANS: F  | PTS: 1 | REF: 42 |
| 8. ANS: T  | PTS: 1 | REF: 40 |
| 9. ANS: F  | PTS: 1 | REF: 44 |
| 10. ANS: F | PTS: 1 | REF: 47 |

**MODIFIED TRUE/FALSE**

- |   |         |         |
|---|---------|---------|
| 11. ANS: T                              | PTS: 1  | REF: 42 |
| 12. ANS: T                              | PTS: 1  | REF: 42 |
| 13. ANS: F, voltage                     |         |         |
| PTS: 1                                  | REF: 43 |         |
| 14. ANS: F, amperes                     |         |         |
| PTS: 1                                  | REF: 44 |         |
| 15. ANS: T                              | PTS: 1  | REF: 44 |
| 16. ANS: F<br>direct current<br>DC      |         |         |
| PTS: 1                                  | REF: 47 |         |
| 17. ANS: F<br>alternating current<br>AC |         |         |
| PTS: 1                                  | REF: 48 |         |
| 18. ANS: T                              | PTS: 1  | REF: 48 |
| 19. ANS: T                              | PTS: 1  | REF: 49 |
| 20. ANS: F, Static                      |         |         |
| PTS: 1                                  | REF: 41 |         |

**MULTIPLE CHOICE**

- |            |        |         |
|------------|--------|---------|
| 21. ANS: A | PTS: 1 | REF: 40 |
|------------|--------|---------|



22.	ANS: D	PTS: 1	REF: 40
23.	ANS: C	PTS: 1	REF: 41
24.	ANS: B	PTS: 1	REF: 41
25.	ANS: C	PTS: 1	REF: 40
26.	ANS: A	PTS: 1	REF: 41
27.	ANS: B	PTS: 1	REF: 42
28.	ANS: A	PTS: 1	REF: 42
29.	ANS: D	PTS: 1	REF: 42
30.	ANS: C	PTS: 1	REF: 42
31.	ANS: A	PTS: 1	REF: 43
32.	ANS: C	PTS: 1	REF: 43
33.	ANS: C	PTS: 1	REF: 44
34.	ANS: A	PTS: 1	REF: 44
35.	ANS: D	PTS: 1	REF: 45
36.	ANS: A	PTS: 1	REF: 47
37.	ANS: B	PTS: 1	REF: 48
38.	ANS: B	PTS: 1	REF: 48
39.	ANS: A	PTS: 1	REF: 48
40.	ANS: D	PTS: 1	REF: 48
41.	ANS: B	PTS: 1	REF: 49
42.	ANS: A	PTS: 1	REF: 49
43.	ANS: B	PTS: 1	REF: 50
44.	ANS: D	PTS: 1	REF: 50
45.	ANS: B	PTS: 1	REF: 53
46.	ANS: A	PTS: 1	REF: 53
47.	ANS: D	PTS: 1	REF: 54
48.	ANS: C	PTS: 1	REF: 56
49.	ANS: C	PTS: 1	REF: 59
50.	ANS: C	PTS: 1	REF: 59
51.	ANS: D	PTS: 1	REF: 59
52.	ANS: B	PTS: 1	REF: 59
53.	ANS: C	PTS: 1	REF: 59
54.	ANS: A	PTS: 1	REF: 61
55.	ANS: B	PTS: 1	REF: 63

## YES/NO

56.	ANS: Y	PTS: 1	REF: 40
57.	ANS: Y	PTS: 1	REF: 42
58.	ANS: N	PTS: 1	REF: 43
59.	ANS: Y	PTS: 1	REF: 41
60.	ANS: N	PTS: 1	REF: 45
61.	ANS: N	PTS: 1	REF: 48
62.	ANS: N	PTS: 1	REF: 40
63.	ANS: Y	PTS: 1	REF: 56
64.	ANS: Y	PTS: 1	REF: 42

65. ANS: N                   PTS: 1                   REF: 60

### COMPLETION

66. ANS: charge

PTS: 1                   REF: 40

67. ANS: Static electricity

PTS: 1                   REF: 41

68. ANS: electrostatic charges

PTS: 1                   REF: 41

69. ANS:  
Current electricity  
Electric current

PTS: 1                   REF: 41

70. ANS: circuit

PTS: 1                   REF: 42

71. ANS: conductor

PTS: 1                   REF: 42

72. ANS: signal

PTS: 1                   REF: 42

73. ANS: Grounding

PTS: 1                   REF: 42

74. ANS: voltage

PTS: 1                   REF: 43

75. ANS: Resistance

PTS: 1                   REF: 44

### MATCHING

76. ANS: H                   PTS: 1                   REF: 40

77. ANS: A                   PTS: 1                   REF: 41

78. ANS: F                   PTS: 1                   REF: 42

79. ANS: J                   PTS: 1                   REF: 42

80. ANS: E                   PTS: 1                   REF: 42

81. ANS: B                   PTS: 1                   REF: 42

82. ANS: C                   PTS: 1                   REF: 43

83. ANS: G                   PTS: 1                   REF: 43

84. ANS: D                   PTS: 1                   REF: 44

85. ANS: I                      PTS: 1                      REF: 44

**SHORT ANSWER**

86. ANS:  
Static electricity

PTS: 1                      REF: 41

87. ANS:  
Circuit

PTS: 1                      REF: 42

88. ANS:  
Signal

PTS: 1                      REF: 42

89. ANS:  
Conductor

PTS: 1                      REF: 42

90. ANS:  
Voltage

PTS: 1                      REF: 43

91. ANS:  
Resistance

PTS: 1                      REF: 44

92. ANS:  
Ohms

PTS: 1                      REF: 45

93. ANS:  
Protons and neutrons

PTS: 1                      REF: 40

94. ANS:  
Frequency

PTS: 1                      REF: 48