

## Results for sample technician2014 test paper

Your answers are marked like this:

✓ **A. You got this question right, this is your correct answer.**

✗ *A. You got this question wrong, this is your incorrect answer.*

✓ *A. You got this question wrong, this is the correct answer.*

✓ **A. You didnt answer this question but this would be the correct answer.**

### Subelement T0

1: T0A01

**Which of the following is a safety hazard of a 12-volt storage battery?**

- A. Touching both terminals with the hands can cause electrical shock
- ✓ **B. Shorting the terminals can cause burns, fire, or an explosion**
- C. RF emissions from the battery

✗ D. All of these choices are correct

2: T0B07

**Which of the following is an important safety rule to remember when using a crank-up tower?**

- A. This type of tower must never be painted
- B. This type of tower must never be grounded
- ✓ **C. This type of tower must never be climbed unless it is in the fully retracted position**

D. All of these choices are correct

3: T0C11

**What is the definition of duty cycle during the averaging time for RF exposure?**

- A. The difference between the lowest power output and the highest power output of a transmitter

✗ B. The difference between the PEP and average power output of a transmitter

- ✓ **C. The percentage of time that a transmitter is transmitting**
- D. The percentage of time that a transmitter is not transmitting

### Subelement T1

4: T1A01

**Which of the following is a purpose of the Amateur Radio Service as stated in the**

**FCC rules and regulations?**

- A. Providing personal radio communications for as many citizens as possible
- B. Providing communications for international non-profit organizations
- ☒ **C. Advancing skills in the technical and communication phases of the radio art**
- D. All of these choices are correct

5: T1B02

**Why are the frequency assignments for some U.S. Territories different from those in the 50 U.S. States?**

- ☒ **A. Some U. S. Territories are located in ITU regions other than region 2**
- B. Territorial governments are allowed to select their own frequency allocations
- C. Territorial frequency allocations must also include those of adjacent countries
- D. Any territory that was in existence before the ratification of the Communications Act of 1934 is exempt from FCC frequency regulations

6: T1C11

**If your license has expired and is still within the allowable grace period, may you continue to operate a transmitter on amateur service frequencies?**

- ☒ **A. No, transmitting is not allowed until the FCC license database shows that the license has been renewed**
- B. Yes, but only if you identify using the suffix GP
- C. Yes, but only during authorized nets
- D. Yes, for up to two years

7: T1D07

**What types of amateur stations can automatically retransmit the signals of other amateur stations?**

- A. Auxiliary, beacon, or Earth stations
- ☒ **B. Auxiliary, repeater, or space stations**
- C. Beacon, repeater, or space stations
- D. Earth, repeater, or space stations

8: T1E09

**What type of control is being used when the control operator is at the control point?**

- A. Radio control
- B. Unattended control
- C. Automatic control
- ☒ **D. Local control**

9: T1F07

**Which of the following restrictions apply when a non-licensed person is allowed to speak to a foreign station using a station under the control of a Technician Class control operator?**

- A. The person must be a U.S. citizen
- ☒ **B. The foreign station must be one with which the U.S. has a third party agreement**
- C. The licensed control operator must do the station identification
- D. All of these choices are correct

## Subelement T2

10: T2A04

**What is an appropriate way to call another station on a repeater if you know the other station's call sign?**

- A. Say break, break then say the station's call sign
- ✓ B. Say the station's call sign then identify with your call sign
- C. Say CQ three times then the other station's call sign
- D. Wait for the station to call CQ then answer it

11: T2B07

**What could cause your FM signal to interfere with stations on nearby frequencies?**

- ✓ A. Microphone gain too high, causing over-deviation
- B. SWR too high
- C. Incorrect CTCSS Tone
- D. All of these choices are correct

12: T2C08

**Which of the following is a characteristic of good emergency traffic handling?**

- ✓ A. Passing messages exactly as received
- B. Making decisions as to whether or not messages should be relayed or delivered
- C. Communicating messages to the news media for broadcast outside the disaster area
- x D. All of these choices are correct

## Subelement T3

13: T3A04

**What can happen if the antennas at opposite ends of a VHF or UHF line of sight radio link are not using the same polarization?**

- A. The modulation sidebands might become inverted
- ✓ B. Signals could be significantly weaker
- C. Signals have an echo effect on voices
- D. Nothing significant will happen

14: T3B04

**How fast does a radio wave travel through free space?**

- ✓ A. At the speed of light
- B. At the speed of sound
- C. Its speed is inversely proportional to its wavelength
- D. Its speed increases as the frequency increases

15: T3C12

**Which of the following bands may provide long distance communications during the peak of the sunspot cycle?**

- ✓ A. Six or ten meters
- B. 23 centimeters

- C. 70 centimeters or 1.25 meters
- D. All of these choices are correct

## Subelement T4

16: T4A09

**Which of the following could you use to cure distorted audio caused by RF current flowing on the shield of a microphone cable?**

- A. Band-pass filter
- B. Low-pass filter
- C. Preamplifier
- ✓ D. Ferrite choke

17: T4B08

**What is the advantage of having multiple receive bandwidth choices on a multimode transceiver?**

- A. Permits monitoring several modes at once
- ✓ B. Permits noise or interference reduction by selecting a bandwidth matching the mode
- C. Increases the number of frequencies that can be stored in memory
- D. Increases the amount of offset between receive and transmit frequencies

## Subelement T5

18: T5A04

**What is the name for a current that flows only in one direction?**

- A. Alternating current
- ✓ B. Direct current
- C. Normal current
- D. Smooth current ~

19: T5B02

**What is another way to specify a radio signal frequency of 1,500,000 hertz?**

- ✓ A. 1500 kHz
- B. 1500 MHz
- C. 15 GHz
- D. 150 kHz

20: T5C10

**How much power is being used in a circuit when the applied voltage is 12 volts DC and the current is 2.5 amperes?**

- A. 4.8 watts
- ✓ B. 30 watts
- C. 14.5 watts
- D. 0.208 watts

21: T5D12

**What is the voltage across a 10-ohm resistor if a current of 2 amperes flows through it?**

- A. 8 volts
- B. 0.2 volts
- C. 12 volts

✓ **D. 20 volts**

## **Subelement T6**

22: T6A11

**Which of the following battery types is not rechargeable?**

- A. Nickel-cadmium

✓ **B. Carbon-zinc**

- C. Lead-acid
- D. Lithium-ion

23: T6B09

**What are the names of the two electrodes of a diode?**

- A. Plus and minus
- B. Source and drain

✓ **C. Anode and cathode**

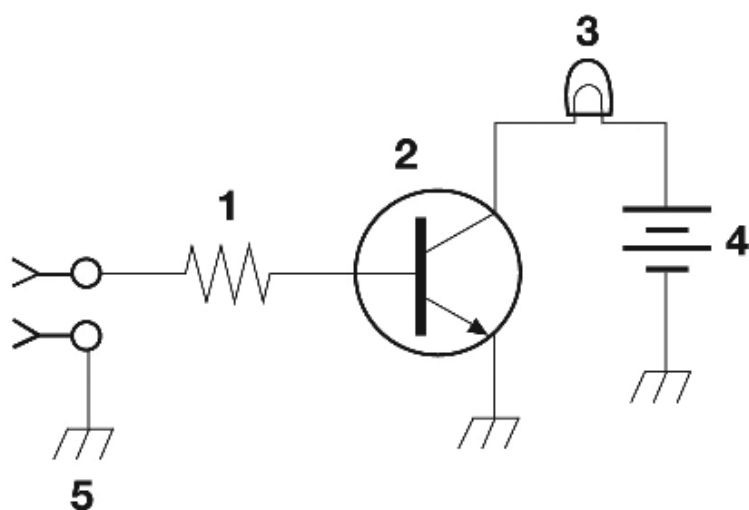
- D. Gate and base

24: T6C02

**What is component 1 in figure T1?**

✓ **A. Resistor**

- B. Transistor
- C. Battery
- D. Connector

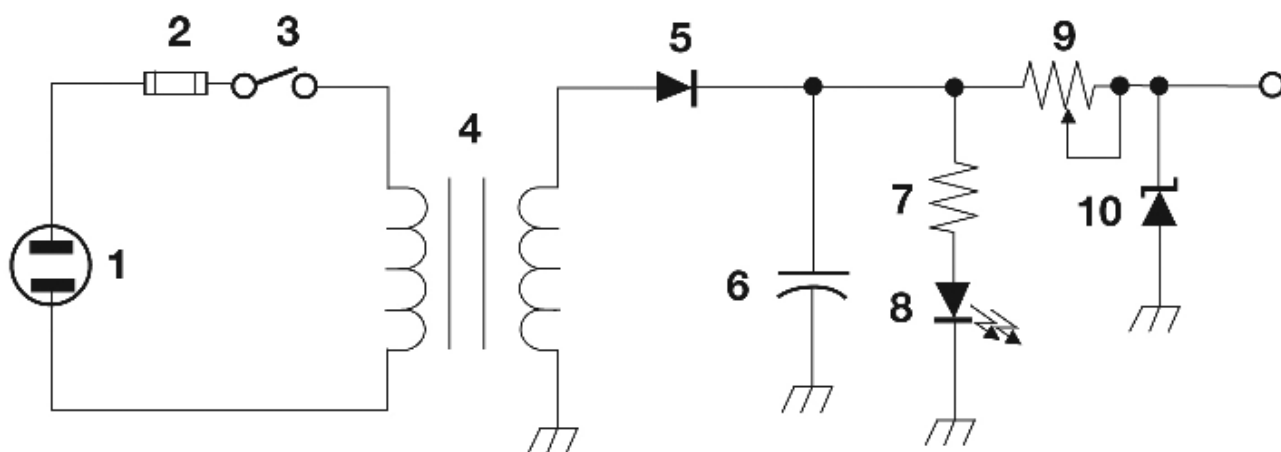


**Figure T-1**

25: T6D03

**What type of switch is represented by component 3 in figure T2?**

- ✓ **A. Single-pole single-throw**
- B. Single-pole double-throw
- C. Double-pole single-throw
- D. Double-pole double-throw



**Figure T-2**

## Subelement T7

26: T7A10

**What device increases the low-power output from a handheld transceiver?**

- A. A voltage divider

✓ **B. An RF power amplifier**

- C. An impedance network
- D. All of these choices are correct

27: T7B02

**What would cause a broadcast AM or FM radio to receive an amateur radio transmission unintentionally?**

✓ **A. The receiver is unable to reject strong signals outside the AM or FM band**

- B. The microphone gain of the transmitter is turned up too high
- C. The audio amplifier of the transmitter is overloaded
- D. The deviation of an FM transmitter is set too low

28: T7C12

**Which of the following is a common use of coaxial cable?**

- A. Carrying dc power from a vehicle battery to a mobile radio

✓ **B. Carrying RF signals between a radio and antenna**

- C. Securing masts, tubing, and other cylindrical objects on towers
- D. Connecting data signals from a TNC to a computer

29: T7D05

**What instrument is used to measure resistance?**

- A. An oscilloscope
- B. A spectrum analyzer
- C. A noise bridge

✓ **D. An ohmmeter**

## Subelement T8

30: T8A02

**What type of modulation is most commonly used for VHF packet radio transmissions?**

✓ **A. FM**

- B. SSB
- C. AM
- D. Spread Spectrum

31: T8B07

**With regard to satellite communications, what is Doppler shift?**

- A. A change in the satellite orbit
- B. A mode where the satellite receives signals on one band and transmits on another

✓ **C. An observed change in signal frequency caused by relative motion between the satellite and the earth station**

- D. A special digital communications mode for some satellites

32: T8C04

**Which of the following is good procedure when contacting another station in a radio contest?**

A. Be sure to sign only the last two letters of your call if there is a pileup calling the station

B. Work the station twice to be sure that you are in his log

✓ **C. Send only the minimum information needed for proper identification and the contest exchange**

D. All of these choices are correct

33: T8D07

**What is PSK31?**

A. A high-rate data transmission mode

B. A method of reducing noise interference to FM signals

C. A method of compressing digital television signals

✓ **D. A low-rate data transmission mode**

## Subelement T9

34: T9A05

**How would you change a dipole antenna to make it resonant on a higher frequency?**

A. Lengthen it

B. Insert coils in series with radiating wires

✓ **C. Shorten it**

D. Add capacitive loading to the ends of the radiating wires

35: T9B04

**What does an antenna tuner do?**

✓ **A. It matches the antenna system impedance to the transceiver's output impedance**

B. It helps a receiver automatically tune in weak stations

C. It allows an antenna to be used on both transmit and receive

D. It automatically selects the proper antenna for the frequency band being used

**Results:**

**You scored 32 correct answers and 3 incorrect answers from a total of 35.**

**You would have passed the exam! Congratulations!**

e1

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