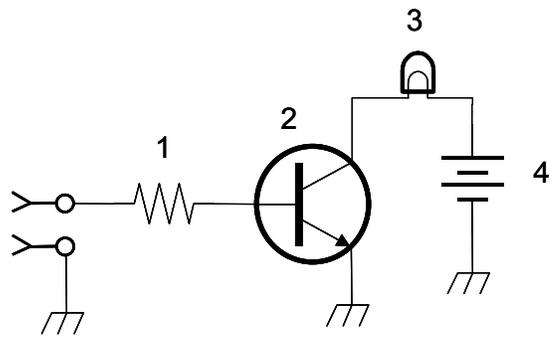


## Technician Practice Exam #4

1. What is the function of component 2 in Figure T1?  
(T6D10)

- A. Supply electrical energy
- B. Control the flow of current
- C. Convert electrical energy into radio waves
- D. Give off light when current flows through it



2. What is the approximate velocity of a radio wave as it travels through free space? (T3B11)

- A. 3000 kilometers per second
- B. 300,000 miles per hour
- C. 300,000,000 meters per second
- D. 186,000 miles per hour

3. Electrical current is measured in which of the following units? (T5A01)

- A. Volts
- B. Watts
- C. Ohms
- D. Amperes

4. Why should coax connectors exposed to the weather be sealed against water intrusion? (T9B08)

- A. To prevent interference to telephones
- B. To prevent an increase in feedline loss
- C. To keep the jacket from becoming loose
- D. All of these choices are correct

5. What is the voltage across a 2-ohm resistor if a current of 0.5 amperes flows through it? (T5D10)

- A. 1.5 volts
- B. 2.5 volts
- C. 0.25 volts
- D. 1 volt

6. What is the maximum power level that an amateur radio station may use at VHF frequencies before an RF exposure evaluation is required? (T0C03)

- A. 50 watts PEP reflected power
- B. 1 watt forward power
- C. 1500 watts PEP transmitter output
- D. 50 watts PEP at the antenna

7. Which of the following can be used to transmit CW in the amateur bands? (T8D10)

- A. Computer Keyboard
- B. All of these choices are correct
- C. Electronic Keyer
- D. Straight Key

8. What is the ability to store energy in an electric field called? (T5C01)

- A. Tolerance
- B. Capacitance

- C. Inductance
- D. Resistance

**9. Which of the following types of solder is best for radio and electronic use? (T7D08)**

- A. Acid-core solder
- B. Silver solder
- C. Rosin-core solder
- D. Aluminum solder

**10. What do the initials LEO tell you about an amateur satellite? (T8B10)**

- A. The satellite is performing a Lunar Ejection Orbit maneuver
- B. The satellite is in a Low Earth Orbit
- C. The satellite uses Light Emitting Optics
- D. The satellite battery is in Low Energy Operation mode

**11. When is an amateur station required to transmit its assigned call sign? (T1F03)**

- A. At least once during each transmission
- B. At the beginning of each contact, and every 10 minutes thereafter
- C. At least every 10 minutes during and at the end of a contact
- D. At least every 15 minutes during and at the end of a contact

**12. What is a way to enable quick access to a favorite frequency on your transceiver? (T4B04)**

- A. Enable the CTCSS tones
- B. Disable the CTCSS tones
- C. Store the frequency in a memory channel
- D. Use the scan mode to select the desired frequency

**13. What do the FCC rules mean when an amateur frequency band is said to be available on a secondary basis? (T1B08)**

- A. Secondary users of a frequency have equal rights to operate
- B. Secondary users are not allowed on amateur bands
- C. Amateurs may not cause harmful interference to primary users
- D. Amateurs are only allowed to use the frequency at night

**14. What is the approximate amount of change, measured in decibels (dB), of a power increase from 20 watts to 200 watts? (T5B11)**

- A. 18 dB
- B. 10 dB
- C. 28 dB
- D. 12 dB

**15. Which of the following describes a simple dipole mounted so the conductor is parallel to the Earth's surface? (T9A03)**

- A. A rhombic antenna
- B. A ground wave antenna
- C. A horizontally polarized antenna
- D. A vertically polarized antenna

**16. What is a grid locator? (T8C05)**

- A. An instrument for radio direction finding
- B. An instrument for neutralizing a final amplifier
- C. A letter-number designator assigned to a geographic location
- D. A letter-number designator assigned to an azimuth and elevation

**17. What type of control is being used for a repeater when the control operator is not present at a control point? (T1E08)**

- A. Automatic control
- B. Local control
- C. Remote control
- D. Unattended

**18. Which term describes the ability of a receiver to discriminate between multiple signals? (T7A12)**

- A. Sensitivity
- B. Selectivity
- C. Tuning rate
- D. Noise floor

**19. 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? (T3A04)**

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

**20. What is usually considered to be the most important job of an amateur operator when handling emergency traffic messages? (T2C08)**

- A. Estimating the number of people affected by the disaster
- B. Passing messages exactly as written, spoken or as received
- C. Communicating messages to the news media for broadcast outside the disaster area
- D. Broadcasting emergency information to the general public

**21. What causes "tropospheric ducting"? (T3C08)**

- A. Discharges of lightning during electrical storms
- B. Sunspots and solar flares
- C. Temperature inversions in the atmosphere
- D. Updrafts from hurricanes and tornadoes

**22. Which type of call sign has a single letter in both the prefix and suffix? (T1C01)**

- A. Vanity
- B. Sequential
- C. Special event
- D. In-memoriam

**23. What does the acronym "BER" mean when applied to digital communications systems? (T7B12)**

- A. Bit Error Rate
- B. Baud Enhancement Recovery
- C. Baud Error Removal

D. Bit Exponent Resource

**24. Which of the following is an important safety precaution to observe when putting up an antenna tower? (T0B04)**

- A. Look for and stay clear of any overhead electrical wires
- B. All of these choices are correct
- C. Insulate the base of the tower to avoid lightning strikes
- D. Wear a ground strap connected to your wrist at all times

**25. What is the proper course of action if your station's transmission unintentionally interferes with another station? (T2B08)**

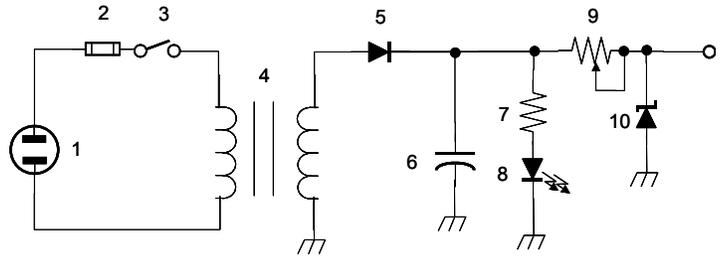
- A. Increase power
- B. Change antenna polarization
- C. Properly identify your transmission and move to a different frequency
- D. Rotate your antenna slightly

**26. What brief statement is often used in place of "CQ" to indicate that you are listening on a repeater? (T2A09)**

- A. Say the letters "QSY" followed by your call sign
- B. Say "Hello test" followed by your call sign
- C. Say the repeater call sign followed by your call sign
- D. Say your call sign

**27. What is component 8 in figure T2? (T6C07)**

- A. Inductor
- B. Light emitting diode
- C. Regulator IC
- D. Resistor



**28. What is the approximate maximum bandwidth required to transmit a CW signal? (T8A11)**

- A. 150 Hz
- B. 15 kHz
- C. 2.4 kHz
- D. 1000 Hz

**29. Why is it unwise to install a 20-ampere fuse in the place of a 5-ampere fuse? (T0A05)**

- A. Excessive current could cause a fire
- B. All of these choices are correct
- C. The power supply ripple would greatly increase
- D. The larger fuse would be likely to blow because it is rated for higher current

**30. Which semiconductor component has an emitter electrode? (T6B10)**

- A. Field effect transistor
- B. Silicon diode
- C. Bipolar transistor
- D. Bridge rectifier

**31. When is the transmission of codes or ciphers allowed to hide the meaning of a message transmitted by an amateur station? (T1D03)**

- A. Only when operating mobile
- B. Only when frequencies above 1280 MHz are used
- C. Only when transmitting control commands to space stations or radio control craft
- D. Only during contests

**32. What type of filter should be connected to a TV receiver as the first step in trying to prevent RF overload from a nearby 2 meter transmitter? (T4A05)**

- A. Band-reject filter
- B. High-pass filter
- C. Low-pass filter
- D. Band-pass filter

**33. What does an SWR reading of 4:1 mean? (T7C06)**

- A. An antenna gain of 4
- B. A good impedance match
- C. An antenna loss of 4 dB
- D. An impedance mismatch

**34. What is the FCC Part 97 definition of a space station? (T1A05)**

- A. Any multi-stage satellite
- B. An amateur station located less than 25 km above the Earth's surface
- C. An Earth satellite that carries one or more amateur operators
- D. An amateur station located more than 50 km above the Earth's surface

**35. What electrical parameter is controlled by a potentiometer? (T6A03)**

- A. Inductance
- B. Capacitance
- C. Resistance
- D. Field strength