

# 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: T0B03

**Under what circumstances is it safe to climb a tower without a helper or observer?**

A. When no electrical work is being performed

B. When no mechanical work is being performed

C. When the work being done is not more than 20 feet above the ground

✓ **D. Never**

3: T0C07

**What could happen if a person accidentally touched your antenna while you were transmitting?**

A. Touching the antenna could cause television interference

✓ **B. They might receive a painful RF burn**

C. They might develop radiation poisoning

D. All of these choices are correct

## Subelement T1

4: T1A07

**What is the FCC Part 97 definition of telemetry?**

- A. An information bulletin issued by the FCC
- B. A one-way transmission to initiate, modify or terminate functions of a device at a distance
- ☒ **C. A one-way transmission of measurements at a distance from the measuring instrument**
- D. An information bulletin from a VEC

5: T1B11

**What emission modes are permitted in the mode-restricted sub-bands at 50.0 to 50.1 MHz and 144.0 to 144.1 MHz?**

- ☒ **A. CW only**
- B. CW and RTTY
- C. SSB only
- D. CW and SSB

6: T1C04

**When are you allowed to operate your amateur station in a foreign country?**

- ☒ **A. When the foreign country authorizes it**
- ☐ **B. When there is a mutual agreement allowing third party communications**
- C. When authorization permits amateur communications in a foreign language
- D. When you are communicating with non-licensed individuals in another country

7: T1D08

**In which of the following circumstances may the control operator of an amateur station receive compensation for operating the station?**

- A. When engaging in communications on behalf of their employer
- ☒ **B. When the communication is incidental to classroom instruction at an educational institution**
- C. When re-broadcasting weather alerts during a RACES net
- D. When notifying other amateur operators of the availability for sale or trade of apparatus

8: T1E07

**When the control operator is not the station licensee, who is responsible for the proper operation of the station?**

- A. All licensed amateurs who are present at the operation
- B. Only the station licensee
- ☐ **C. Only the control operator**
- ☒ **D. The control operator and the station licensee are equally responsible**

9: T1F01

**What type of identification is being used when identifying a station on the air as Race Headquarters?**

- ☒ **A. Tactical call sign**
- B. An official call sign reserved for RACES drills
- C. SSID
- D. Broadcast station

## Subelement T2

10: T2A05

**How should you respond to a station calling CQ?**

- A. Transmit CQ followed by the other station's call sign
- B. Transmit your call sign followed by the other station's call sign
- ☒ **C. Transmit the other station's call sign followed by your call sign**
- D. Transmit a signal report followed by your call sign

11: T2B08

**Which of the following applies when two stations transmitting on the same frequency interfere with each other?**

- ☒ **A. Common courtesy should prevail, but no one has absolute right to an amateur frequency**
- B. Whoever has the strongest signal has priority on the frequency
- C. Whoever has been on the frequency the longest has priority on the frequency
- D. The station which has the weakest signal has priority on the frequency

12: T2C12

**What is the Amateur Radio Emergency Service (ARES)?**

- ☒ **A. Licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service**
- B. Licensed amateurs who are members of the military and who voluntarily agreed to provide message handling services in the case of an emergency
- C. A training program that provides licensing courses for those interested in obtaining an amateur license to use during emergencies
- D. A training program that certifies amateur operators for membership in the Radio Amateur Civil Emergency Service

## Subelement T3

13: T3A05

**When using a directional antenna, how might your station be able to access a distant repeater if buildings or obstructions are blocking the direct line of sight path?**

- A. Change from vertical to horizontal polarization
- ☒ **B. Try to find a path that reflects signals to the repeater**
- C. Try the long path
- D. Increase the antenna SWR

14: T3B03

**What are the two components of a radio wave?**

- A. AC and DC
- B. Voltage and current
- ☒ **C. Electric and magnetic fields**
- ☒ **D. Ionizing and non-ionizing radiation**

15: T3C11

**Why do VHF and UHF radio signals usually travel somewhat farther than the visual line of sight distance between two stations?**

- A. Radio signals move somewhat faster than the speed of light
- B. Radio waves are not blocked by dust particles
- ☒ **C. The Earth seems less curved to radio waves than to light**
- D. Radio waves are blocked by dust particles

## Subelement T4

16: T4A07

**How is a computer's sound card used when conducting digital communications using a computer?**

- A. The sound card communicates between the computer CPU and the video display
- B. The sound card records the audio frequency for video display
- ☒ **C. The sound card provides audio to the microphone input and converts received audio to digital form**
- D. All of these choices are correct

17: T4B03

**What is the purpose of the squelch control on a transceiver?**

- A. To set the highest level of volume desired
- B. To set the transmitter power level
- C. To adjust the automatic gain control
- ☒ **D. To mute receiver output noise when no signal is being received**

## Subelement T5

18: T5A01

**Electrical current is measured in which of the following units?**

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

19: T5B07

**If a frequency readout calibrated in megahertz shows a reading of 3.525 MHz, what would it show if it were calibrated in kilohertz?**

- A. 0.003525 kHz
- B. 35.25 kHz
- ☒ **C. 3525 kHz**
- D. 3,525,000 kHz

20: T5C07

**What is a usual name for electromagnetic waves that travel through space?**

- A. Gravity waves
- B. Sound waves
- ☒ **C. Radio waves**
- D. Pressure waves

21: T5D01

**What formula is used to calculate current in a circuit?**

- A. Current (I) equals voltage (E) multiplied by resistance (R)
- ☒ **B. Current (I) equals voltage (E) divided by resistance (R)**
- C. Current (I) equals voltage (E) added to resistance (R)
- D. Current (I) equals voltage (E) minus resistance (R)

## Subelement T6

22: T6A06

**What type of electrical component stores energy in a magnetic field?**

- A. Resistor
- ☒ **B. Capacitor**
- ☒ **C. Inductor**
- D. Diode

23: T6B12

**What is the term that describes a transistor's ability to amplify a signal?**

- ☒ **A. Gain**
- B. Forward resistance
- C. Forward voltage drop
- D. On resistance

24: T6C03

**What is component 2 in figure T1?**

- A. Resistor
- ☒ **B. Transistor**
- C. Indicator lamp
- D. Connector

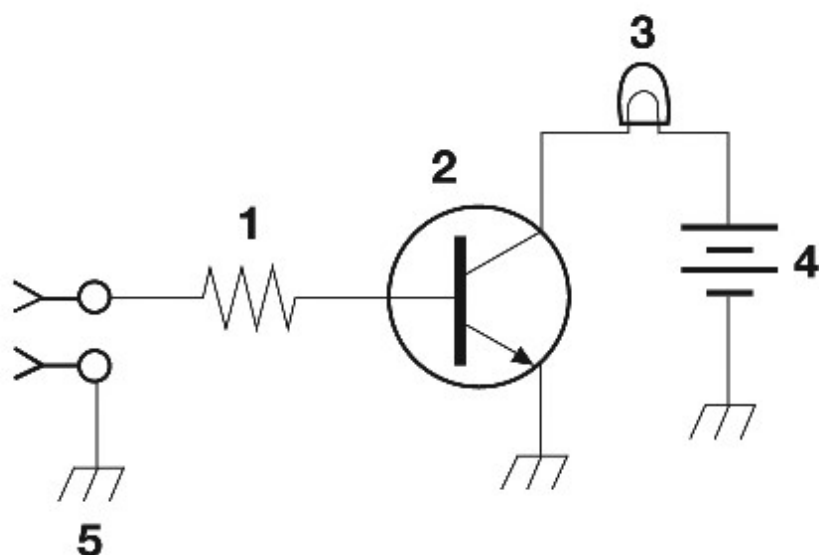


Figure T-1

25: T6D10

What is the function of component 2 in Figure T1?

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

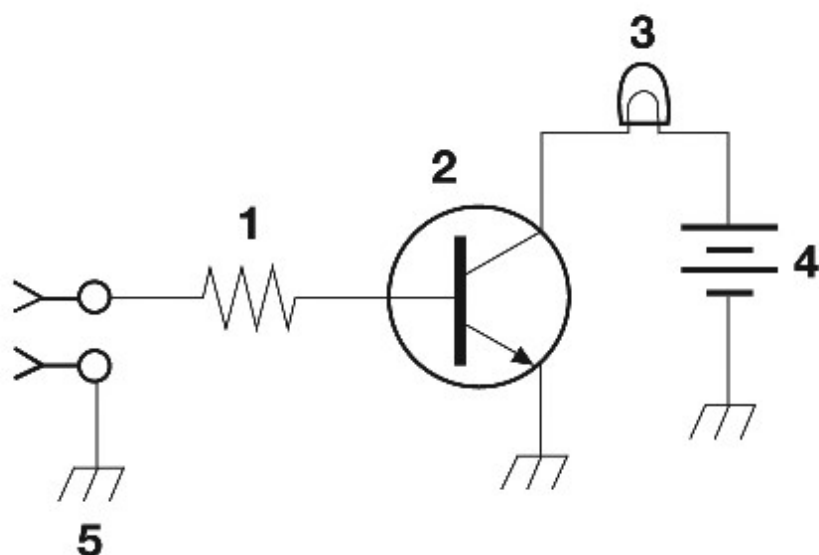


Figure T-1

## Subelement T7

26: T7A02

**What is a transceiver?**

- A. A type of antenna switch
- ☒ **B. A unit combining the functions of a transmitter and a receiver**
- C. A component in a repeater which filters out unwanted interference
- D. A type of antenna matching network

27: T7B06

**Which of the following actions should you take if a neighbor tells you that your station's transmissions are interfering with their radio or TV reception?**

- ☒ **A. Make sure that your station is functioning properly and that it does not cause interference to your own radio or television when it is tuned to the same channel**
- B. Immediately turn off your transmitter and contact the nearest FCC office for assistance
- C. Tell them that your license gives you the right to transmit and nothing can be done to reduce the interference
- D. Install a harmonic doubler on the output of your transmitter and tune it until the interference is eliminated

28: T7C11

**What is a disadvantage of air core coaxial cable when compared to foam or solid dielectric types?**

- A. It has more loss per foot
- B. It cannot be used for VHF or UHF antennas
- ☒ **C. It requires special techniques to prevent water absorption**
- D. It cannot be used at below freezing temperatures

29: T7D08

**Which of the following types of solder is best for radio and electronic use?**

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

## Subelement T8

30: T8A10

**What is the typical bandwidth of analog fast-scan TV transmissions on the 70 cm band?**

- A. More than 10 MHz
- ☒ **B. About 6 MHz**
- C. About 3 MHz
- D. About 1 MHz

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: T8C12

**What is meant by Voice Over Internet Protocol (VoIP) as used in amateur radio?**

- A. A set of rules specifying how to identify your station when linked over the Internet to another station
- B. A set of guidelines for working DX during contests using Internet access
- C. A technique for measuring the modulation quality of a transmitter using remote sites monitored via the Internet
- ☒ **D. A method of delivering voice communications over the Internet using digital techniques**

33: T8D09

**What code is used when sending CW in the amateur bands?**

- A. Baudot
- B. Hamming
- ☒ **C. International Morse**
- D. Gray

## Subelement T9

34: T9A06

**What type of antennas are the quad, Yagi, and dish?**

- A. Non-resonant antennas
- B. Loop antennas
- ☒ **C. Directional antennas**
- D. Isotropic antennas

35: T9B09

**What might cause erratic changes in SWR readings?**

- A. The transmitter is being modulated
- ☒ **B. A loose connection in an antenna or a feed line**
- C. The transmitter is being over-modulated
- D. Interference from other stations is distorting your signal

**Results:**

**You scored 31 correct answers and 4 incorrect answers from a total of 35.**

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





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