

# 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: T0A11

**What kind of hazard might exist in a power supply when it is turned off and disconnected?**

- A. Static electricity could damage the grounding system
- B. Circulating currents inside the transformer might cause damage
- C. The fuse might blow if you remove the cover

✓ **D. You might receive an electric shock from the charged stored in large capacitors**

2: T0B08

**What is considered to be a proper grounding method for a tower?**

A. A single four-foot ground rod, driven into the ground no more than 12 inches from the base

B. A ferrite-core RF choke connected between the tower and ground

✓ **C. Separate eight-foot long ground rods for each tower leg, bonded to the tower and each other**

D. A connection between the tower base and a cold water pipe

3: T0C06

**Which of the following is an acceptable method to determine that your station complies with FCC RF exposure regulations?**

A. By calculation based on FCC OET Bulletin 65

B. By calculation based on computer modeling

C. By measurement of field strength using calibrated equipment

✓ **D. All of these choices are correct**

## Subelement T1

4: T1A04

**Which of the following meets the FCC definition of harmful interference?**

- A. Radio transmissions that annoy users of a repeater
- B. Unwanted radio transmissions that cause costly harm to radio station apparatus
- ☒ **C. That which seriously degrades, obstructs, or repeatedly interrupts a radio communication service operating in accordance with the Radio Regulations**
- D. Static from lightning storms

5: T1B01

**What is the ITU?**

- A. An agency of the United States Department of Telecommunications Management
- ☒ **B. A United Nations agency for information and communication technology issues**
- ☐ **C. An independent frequency coordination agency**
- D. A department of the FCC

6: T1C08

**What is the normal term for an FCC-issued primary station/operator amateur radio license grant?**

- A. Five years
- B. Life
- ☒ **C. Ten years**
- D. Twenty years

7: T1D01

**With which countries are FCC-licensed amateur stations prohibited from exchanging communications?**

- ☒ **A. Any country whose administration has notified the ITU that it objects to such communications**
- B. Any country whose administration has notified the ARRL that it objects to such communications
- C. Any country engaged in hostilities with another country
- D. Any country in violation of the War Powers Act of 1934

8: T1E11

**Who does the FCC presume to be the control operator of an amateur station, unless documentation to the contrary is in the station records?**

- A. The station custodian
- B. The third party participant
- C. The person operating the station equipment
- ☒ **D. The station licensee**

9: T1F06

**Which of the following formats of a self-assigned indicator is acceptable when identifying using a phone transmission?**

- A. KL7CC stroke W3
- B. KL7CC slant W3
- C. KL7CC slash W3
- ☒ **D. All of these choices are correct**

## Subelement T2

10: T2A07

**Which of the following is true when making a test transmission?**

- A. Station identification is not required if the transmission is less than 15 seconds
- B. Station identification is not required if the transmission is less than 1 watt
- C. Station identification is only required once an hour when the transmissions are for test purposes only
- ☒ **D. Station identification is required at least every ten minutes during the test and at the end of the test**

11: T2B05

**What determines the amount of deviation of an FM (as opposed to PM) signal?**

- A. Both the frequency and amplitude of the modulating signal
- B. The frequency of the modulating signal
- ☒ **C. The amplitude of the modulating signal**
- D. The relative phase of the modulating signal and the carrier

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: 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: 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: T3C06

**What mode is responsible for allowing over-the-horizon VHF and UHF communications to ranges of approximately 300 miles on a regular basis?**

☒ **A. Tropospheric scatter**

- B. D layer refraction
- C. F2 layer refraction
- D. Faraday rotation

## Subelement T4

16: T4A12

**What could be happening if another operator reports a variable high-pitched whine on the audio from your mobile transmitter?**

- A. Your microphone is picking up noise from an open window
- B. You have the volume on your receiver set too high
- C. You need to adjust your squelch control

☒ **D. Noise on the vehicle's electrical system is being transmitted along with your speech audio**

17: T4B09

**Which of the following is an appropriate receive filter bandwidth to select in order to minimize noise and interference for SSB reception?**

- A. 500 Hz
- B. 1000 Hz

☒ **C. 2400 Hz**

- D. 5000 Hz

## Subelement T5

18: T5A01

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

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

☒ **D. Amperes**

19: T5B11

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

☒ **A. 10 dB**

- B. 12 dB
- C. 18 dB

D. 28 dB

20: T5C06

**What does the abbreviation RF refer to?**

✓ **A. Radio frequency signals of all types**

B. The resonant frequency of a tuned circuit

C. The real frequency transmitted as opposed to the apparent frequency

✗ **D. Reflective force in antenna transmission lines**

21: T5D03

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

A. Resistance (R) equals voltage (E) multiplied by current (I)

✓ **B. Resistance (R) equals voltage (E) divided by current (I)**

C. Resistance (R) equals voltage (E) added to current (I)

D. Resistance (R) equals voltage (E) minus current (I)

## Subelement T6

22: T6A06

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

A. Resistor

✗ **B. Capacitor**

✓ **C. Inductor**

D. Diode

23: T6B02

**What electronic component allows current to flow in only one direction?**

A. Resistor

B. Fuse

✓ **C. Diode**

D. Driven Element

24: T6C08

**What is component 9 in figure T2?**

A. Variable capacitor

B. Variable inductor

✓ **C. Variable resistor**

D. Variable transformer

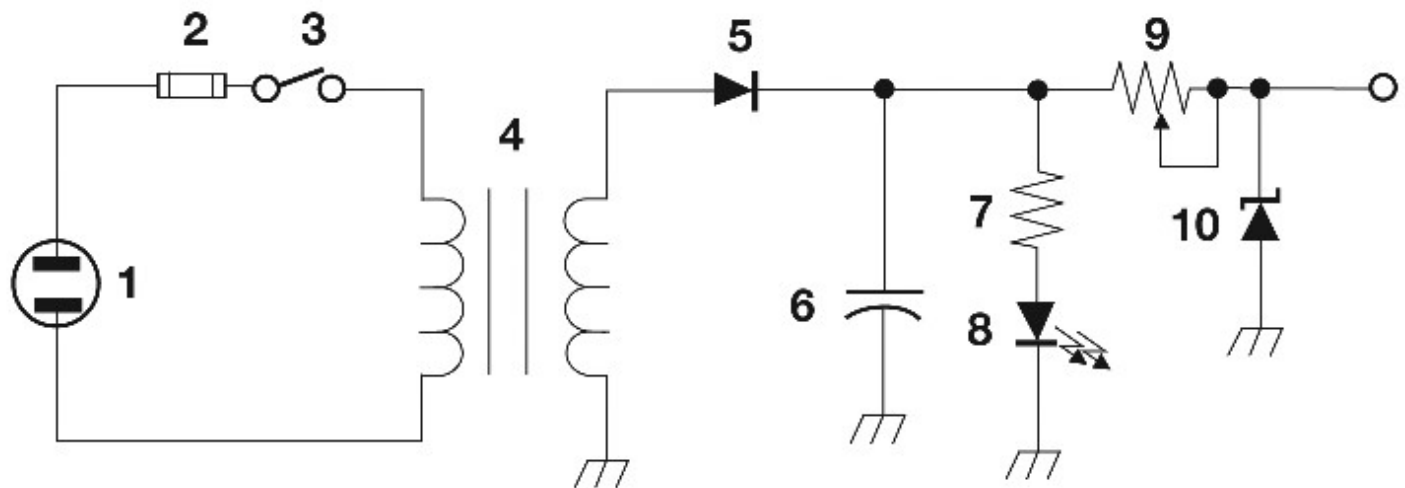


Figure T-2

25: T6D05

What type of circuit controls the amount of voltage from a power supply?

- ✓ A. Regulator
- B. Oscillator
- C. Filter
- D. Phase inverter

## Subelement T7

26: T7A07

What is meant by term PTT ?

- A. Pre-transmission tuning to reduce transmitter harmonic emission
- B. Precise tone transmissions used to limit repeater access to only certain signals
- C. A primary transformer tuner use to match antennas
- ✓ D. The push to talk function which switches between receive and transmit

27: T7B08

What should you do if something in a neighbor's home is causing harmful interference to your amateur station?

- A. Work with your neighbor to identify the offending device
- B. Politely inform your neighbor about the rules that prohibit the use of devices which cause interference
- ✗ C. Check your station and make sure it meets the standards of good amateur practice
- ✓ D. All of these choices are correct

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: T7D10

**What is probably happening when an ohmmeter, connected across an unpowered circuit, initially indicates a low resistance and then shows increasing resistance with time?**

A. The ohmmeter is defective

✓ **B. The circuit contains a large capacitor**

C. The circuit contains a large inductor

D. The circuit is a relaxation oscillator

## Subelement T8

30: T8A05

**Which of the following types of emission has the narrowest bandwidth?**

A. FM voice

B. SSB voice

✓ **C. CW**

D. Slow-scan TV

31: T8B09

**What causes spin fading when referring to satellite signals?**

A. Circular polarized noise interference radiated from the sun

✓ **B. Rotation of the satellite and its antennas**

C. Doppler shift of the received signal

D. Interfering signals within the satellite uplink band

32: T8C02

**Which of these items would be useful for a hidden transmitter hunt?**

A. Calibrated SWR meter

✓ **B. A directional antenna**

C. A calibrated noise bridge

D. All of these choices are correct

33: T8D06

**What does the abbreviation PSK mean?**

A. Pulse Shift Keying

✓ **B. Phase Shift Keying**

C. Packet Short Keying

D. Phased Slide Keying

## Subelement T9

34: T9A10

**In which direction is the radiation strongest from a half-wave dipole antenna in free space?**

- A. Equally in all directions
- B. Off the ends of the antenna
- ✓ C. Broadside to the antenna
- D. In the direction of the feed line

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 30 correct answers and 5 incorrect answers from a total of 35.**

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

e)

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