

# 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: T0A09

**What kind of hazard is presented by a conventional 12-volt storage battery?**

- A. It emits ozone which can be harmful to the atmosphere
- B. Shock hazard due to high voltage

✓ **C. Explosive gas can collect if not properly vented**

- D. All of these choices are correct

2: T0B01

**When should members of a tower work team wear a hard hat and safety glasses?**

- A. At all times except when climbing the tower
- B. At all times except when belted firmly to the tower

✓ **C. At all times when any work is being done on the tower**

- D. Only when the tower exceeds 30 feet in height

3: T0C05

**Why do exposure limits vary with frequency?**

- A. Lower frequency RF fields have more energy than higher frequency fields
- B. Lower frequency RF fields do not penetrate the human body
- C. Higher frequency RF fields are transient in nature

✓ **D. The human body absorbs more RF energy at some frequencies than at others**

## Subelement T1

4: T1A10

**What is the FCC Part 97 definition of an amateur station?**

✓ **A. A station in the Amateur Radio Service consisting of the apparatus necessary**

**for carrying on radio communications**

**xB. A building where Amateur Radio receivers, transmitters, and RF power amplifiers are installed**

- C. Any radio station operated by a non-professional
- D. Any radio station for hobby use

5: T1B09

**Why should you not set your transmit frequency to be exactly at the edge of an amateur band or sub-band?**

- A. To allow for calibration error in the transmitter frequency display
- xB. So that modulation sidebands do not extend beyond the band edge**
- C. To allow for transmitter frequency drift
- ✓ **D. All of these choices are correct**

6: T1C05

**Which of the following is a vanity call sign which a technician class amateur operator might select if available?**

- ✓ **A. K1XXX**
- B. KA1X
- C. W1XX
- D. All of these choices are correct

7: T1D02

**On which of the following occasions may an FCC-licensed amateur station exchange messages with a U.S. military station?**

- ✓ **A. During an Armed Forces Day Communications Test**
- B. During a Memorial Day Celebration
- C. During an Independence Day celebration
- D. During a propagation test

8: T1E04

**What determines the transmitting privileges of an amateur station?**

- A. The frequency authorized by the frequency coordinator
- B. The class of operator license held by the station licensee
- C. The highest class of operator license held by anyone on the premises
- ✓ **D. The class of operator license held by the control operator**

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: T2A02

**What is the national calling frequency for FM simplex operations in the 70 cm band?**

- A. 146.520 MHz
- B. 145.000 MHz
- C. 432.100 MHz

☒ **D. 446.000 MHz**

11: T2B09

**Which of the following methods is encouraged by the FCC when identifying your station when using phone?**

☒ **A. Use of a phonetic alphabet**

- B. Send your call sign in CW as well as voice
- C. Repeat your call sign three times
- D. Increase your signal to full power when identifying

12: T2C07

**Which of the following is an accepted practice for an amateur operator who has checked into an emergency traffic net?**

A. Provided that the frequency is quiet, announce the station call sign and location every 5 minutes

B. Move 5 kHz away from the net's frequency and use high power to ask other hams to keep clear of the net frequency

☒ **C. Remain on frequency without transmitting until asked to do so by the net control station**

☐ **D. All of the choices are correct**

## Subelement T3

13: T3A09

**Which of the following results from the fact that skip signals refracted from the ionosphere are elliptically polarized?**

A. Digital modes are unusable

☒ **B. Either vertically or horizontally polarized antennas may be used for transmission or reception**

C. FM voice is unusable

D. Both the transmitting and receiving antennas must be of the same polarization

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: T3C05

**Which of the following effects might cause radio signals to be heard despite obstructions between the transmitting and receiving stations?**

☒ **A. Knife-edge diffraction**

- B. Faraday rotation
- C. Quantum tunneling
- D. Doppler shift

## Subelement T4

16: T4A02

**How might a computer be used as part of an amateur radio station?**

- A. For logging contacts and contact information
- B. For sending and/or receiving CW
- C. For generating and decoding digital signals

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

17: T4B12

**What is the function of automatic gain control or AGC?**

☒ **A. To keep received audio relatively constant**

- B. To protect an antenna from lightning
- C. To eliminate RF on the station cabling
- D. An asymmetric goniometer control used for antenna matching

## 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: T5B12

**Which of the following frequencies is equal to 28,400 kHz?**

☒ **A. 28.400 MHz**

- B. 2.800 MHz
- C. 284.00 MHz
- D. 28.400 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: T5D04

**What is the resistance of a circuit in which a current of 3 amperes flows through a resistor connected to 90 volts?**

- A. 3 ohms
- ✓ **B. 30 ohms**
- C. 93 ohms
- D. 270 ohms

## 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: T6C01

**What is the name for standardized representations of components in an electrical wiring diagram?**

- A. Electrical depictions
- B. Grey sketch
- ✓ **C. Schematic symbols**
- D. Component callouts

25: T6D02

**What best describes a relay?**

- ✓ **A. A switch controlled by an electromagnet**
- B. A current controlled amplifier
- C. An optical sensor

D. A pass transistor

## Subelement T7

26: T7A03

**Which of the following is used to convert a radio signal from one frequency to another?**

- A. Phase splitter
- ✓ B. Mixer
- C. Inverter
- D. Amplifier

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: T7C05

**What is the approximate SWR value above which the protection circuits in most solid-state transmitters begin to reduce transmitter power?**

- ✓ A. 2 to 1
- B. 1 to 2
- C. 6 to 1
- D. 10 to 1

29: T7D12

**Which of the following precautions should be taken when measuring high voltages with a voltmeter?**

- A. Ensure that the voltmeter has very low impedance
- ✓ B. Ensure that the voltmeter and leads are rated for use at the voltages to be measured
- C. Ensure that the circuit is grounded through the voltmeter
- D. Ensure that the voltmeter is set to the correct frequency

## Subelement T8

30: T8A09

**What is the approximate bandwidth of a VHF repeater FM phone signal?**

- A. Less than 500 Hz

**x**B. About 150 kHz

✓ **C. Between 10 and 15 kHz**

D. Between 50 and 125 kHz

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: T8C09

**How might you obtain a list of active nodes that use VoIP?**

A. From the FCC Rulebook

B. From your local emergency coordinator

✓ **C. From a repeater directory**

D. From the local repeater frequency coordinator

33: T8D04

**What type of transmission is indicated by the term NTSC?**

A. A Normal Transmission mode in Static Circuit

B. A special mode for earth satellite uplink

✓ **C. An analog fast scan color TV signal**

D. A frame compression scheme for TV signals

## Subelement T9

34: T9A02

**Which of the following is true regarding vertical antennas?**

A. The magnetic field is perpendicular to the Earth

✓ **B. The electric field is perpendicular to the Earth**

C. The phase is inverted

D. The phase is reversed

35: T9B06

**Which of the following connectors is most suitable for frequencies above 400 MHz?**

A. A UHF (PL-259/SO-239) connector

✓ **B. A Type N connector**

C. An RS-213 connector

D. A DB-25 connector

**Results:**

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

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

e)

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