

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: T0A08

What safety equipment should always be included in home-built equipment that is powered from 120V AC power circuits?

✓ **A. A fuse or circuit breaker in series with the AC hot conductor**

- B. An AC voltmeter across the incoming power source
- C. An inductor in series with the AC power source
- D. A capacitor across the AC power source

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: 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: T1A14

What must you do if you are operating on the 23 cm band and learn that you are interfering with a radiolocation station outside the United States?

- ☒ **A. Stop operating or take steps to eliminate the harmful interference**
- ☐ B. Nothing, because this band is allocated exclusively to the amateur service
- ☐ C. Establish contact with the radiolocation station and ask them to change frequency
- ☐ D. Change to CW mode, because this would not likely cause interference

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: T1C07

What may result when correspondence from the FCC is returned as undeliverable because the grantee failed to provide the correct mailing address?

- ☐ A. Fine or imprisonment
- ☒ **B. Revocation of the station license or suspension of the operator license**
- ☐ C. Require the licensee to be re-examined
- ☐ D. A reduction of one rank in operator class

7: T1D09

Under which of the following circumstances are amateur stations authorized to transmit signals related to broadcasting, program production, or news gathering, assuming no other means is available?

- ☒ **A. Only where such communications directly relate to the immediate safety of human life or protection of property**
- ☐ B. Only when broadcasting communications to or from the space shuttle
- ☐ C. Only where noncommercial programming is gathered and supplied exclusively to the National Public Radio network
- ☐ D. Only when using amateur repeaters linked to the Internet

8: T1E06

Under what type of control do APRS network digipeaters operate?

- ☒ **A. Automatic**
- ☐ B. Remote
- ☐ C. Local
- ☐ D. Manual

9: T1F08

Which indicator is required by the FCC to be transmitted after a station call sign?

- ☐ A. /M when operating mobile
- ☐ B. /R when operating a repeater
- ☐ C. / followed the FCC Region number when operating out of the region in which the license was issued
- ☒ **D. /KT, /AE or /AG when using new license privileges earned by CSCE while waiting for an upgrade to a previously issued license to appear in the FCC license database**

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: 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: T2C10

What is the preamble in a formal traffic message?

- A. The first paragraph of the message text
- B. The message number

xC. The priority handling indicator for the message

✓ **D. The information needed to track the message as it passes through the amateur radio traffic handling system**

Subelement T3

13: T3A10

What may occur if data signals propagate over multiple paths?

A. Transmission rates can be increased by a factor equal to the number of separate paths observed

xB. Transmission rates must be decreased by a factor equal to the number of separate paths observed

C. No significant changes will occur if the signals are transmitting using FM

✓ **D. Error rates are likely to increase**

14: T3B05

How does the wavelength of a radio wave relate to its frequency?

A. The wavelength gets longer as the frequency increases

✓ **B. The wavelength gets shorter as the frequency increases**

C. There is no relationship between wavelength and frequency

D. The wavelength depends on the bandwidth of the signal

15: T3C03

What is a characteristic of VHF signals received via auroral reflection?

- A. Signals from distances of 10,000 or more miles are common
- ☒ **B. The signals exhibit rapid fluctuations of strength and often sound distorted**
- C. These types of signals occur only during winter nighttime hours
- D. These types of signals are generally strongest when your antenna is aimed west

Subelement T4

16: T4A11

Where should the negative return connection of a mobile transceiver's power cable be connected?

- ☒ **A. At the battery or engine block ground strap**
- B. At the antenna mount
- C. To any metal part of the vehicle
- D. Through the transceiver's mounting bracket

17: T4B10

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

- ☒ **A. 500 Hz**
- B. 1000 Hz
- C. 2400 Hz
- D. 5000 Hz

Subelement T5

18: T5A09

What is the name for a current that reverses direction on a regular basis?

- ☒ **A. Alternating current**
- B. Direct current
- C. Circular current
- D. Vertical current

19: T5B13

If a frequency readout shows a reading of 2425 MHz, what frequency is that in GHz?

- A. 0.002425 GHz
- B. 24.25 GHz
- ☒ **C. 2.425 GHz**
- D. 2425 GHz

20: T5C12

What is meant by the term impedance?

- ☒ **A. It is a measure of the opposition to AC current flow in a circuit**

- B. It is the inverse of resistance
- C. It is a measure of the Q or Quality Factor of a component
- D. It is a measure of the power handling capability of a component

21: T5D02

What formula is used to calculate voltage in a circuit?

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

Subelement T6

22: T6A02

What type of component is often used as an adjustable volume control?

- A. Fixed resistor
- B. Power resistor
- ☒ **C. Potentiometer**
- D. Transformer

23: T6B06

How is the cathode lead of a semiconductor diode usually identified?

- A. With the word cathode
- ☒ **B. With a stripe**
- C. With the letter C
- D. All of these choices are correct

24: T6C03

What is component 2 in figure T1?

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

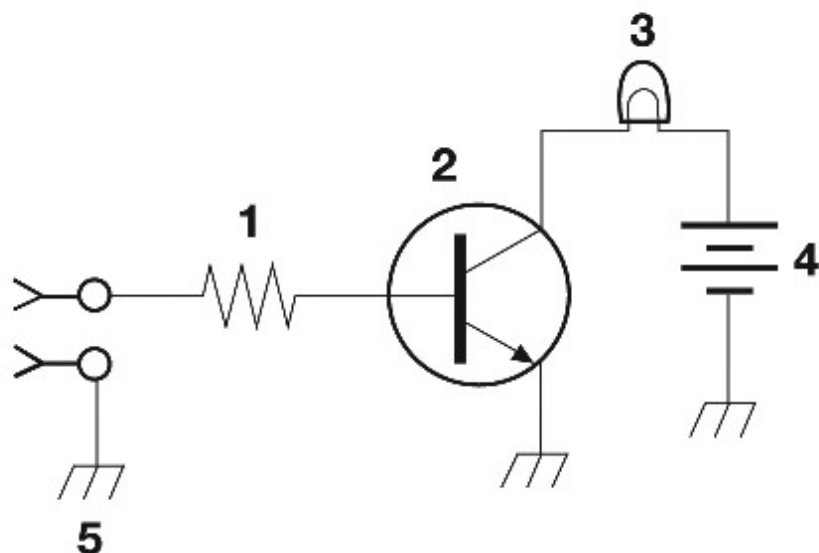


Figure T-1

25: T6D06

What component is commonly used to change 120V AC house current to a lower AC voltage for other uses?

- A. Variable capacitor
- ☒ **B. Transformer**
- C. Transistor
- D. Diode

Subelement T7

26: T7A04

Which term describes the ability of a receiver to discriminate between multiple signals?

- A. Discrimination ratio
- B. Sensitivity
- ☒ **C. Selectivity**
- D. Harmonic Distortion

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: T7C02

Which of the following instruments can be used to determine if an antenna is resonant at the desired operating frequency?

A. A VTVM

☒ **B. An antenna analyzer**

C. A Q meter

D. A frequency counter

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: T8A01

Which of the following is a form of amplitude modulation?

A. Spread-spectrum

B. Packet radio

☒ **C. Single sideband**

D. Phase shift keying

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: T8C08

What is required in place of on-air station identification when sending signals to a radio control model using amateur frequencies?

A. Voice identification must be transmitted every 10 minutes

B. Morse code ID must be sent once per hour

☒ **C. A label indicating the licensee's name, call sign and address must be affixed to the transmitter**

D. A flag must be affixed to the transmitter antenna with the station call sign in 1 inch high letters or larger

33: T8D03

Which of the following devices provides data to the transmitter when sending automatic position reports from a mobile amateur radio station?

- A. The vehicle speedometer
- B. A WWV receiver
- C. A connection to a broadcast FM sub-carrier receiver

✓ **D. A Global Positioning System receiver**

Subelement T9

34: T9A13

Why are VHF or UHF mobile antennas often mounted in the center of the vehicle roof?

- A. Roof mounts have the lowest possible SWR of any mounting configuration
- B. Only roof mounting can guarantee a vertically polarized signal

✓ **C. A roof mounted antenna normally provides the most uniform radiation pattern**

- D. Roof mounted antennas are always the easiest to install

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 33 correct answers and 2 incorrect answers from a total of 35.

You would have passed the exam! Congratulations!

e)

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