# Technician License Class Study Guide

for use with

# The ARRL Ham Radio License Manual

## All you need to become an Amateur Radio Operator

1st Edition

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A _____ converts voice sounds into radio signals. A _____ converts radio signals back into sounds we can hear. (Pg 2-1) T4C02, T4C01

A _____ and a _____ are combined into one unit to make a transceiver. (Pg 2-2) T4C03

You can use a _____ _____ if you need to convert 120 volts ac from your electrical outlet to a lower voltage your radio can use. (Pg 2-2) T4C04

One purpose of a repeater is to extend the range of _____ and _____ stations. (Pg 2-2) T5C01

Your microphone normally connects to your _____ . (Pg 2-3) T5A01

A speaker turns electrical audio signals back into _____ waves. (Pg 2-3) T5A02

_____could be used in place of a speaker to help you hear in a noisy area. (Pg 2-3) T5A04

An _____ can be used to increase the output of a 10 watt radio to 100 watts. (Pg 2-3) T4C05

_____ is the flow of electrons and is measured in _____ . (Pg 2-4) T4A03, T4A01

The instrument used to measure the flow of current is an _____ . (Pg 2-4) T4A12

A _____ is the instrument used to measure Electromotive Force. (Pg 2-4) T4A13

_____ is the property which opposes current flow in conductors. (Pg 2-5) T4A11

The basic unit of resistance is the _____ . (Pg 2-5) T4A07

Copper is a _____ which is a good conductor. (Pg 2-5) T4A09

_____ , _____ , _____ , and _____ are good insulators. (Pg 2-5) T4A10

Resistance equals voltage _____ by current. (Pg 2-5) T4D03

Current equals voltage _____ by resistance. (Pg 2-5) T4D01

Voltage equals current _____ by resistance. (Pg 2-5) T4D02

The basic unit of measure for electrical power is _____ . (Pg 2-5) T4A02, T4E01

The voltage is _____ volts if the current is 0.5 amperes and the resistance is 2 ohm. (Pg 2-5) T4D07, T4D08, T4D09)

The current flowing in a circuit is _____ amperes if the voltage is 120 volts and the resistance is 80 ohms. (Pg 2-5) T4D06, T4D10, T4D11

If a circuit has 3 amperes flowing with a voltage of 90 volts the resistance is _____ ohms. (Pg 2-5) T4D04 T4D05

Power equals voltage _____ by current. (Pg 2-5) T4E02

With a voltage of 13.8 volts and a current of 10 amperes the power is _____ watts. (Pg 2-5) T4E03, T4E04, T4E05

_____ amperes are flowing in a circuit with 120 volts DC and a power of 1200 watts. (Pg 2-6) T4E06

_____ current flows in only one direction but _____ current reverses direction on a regular basis. (Pg 2-6) T4A04, T4A08

1.5 amperes is the same as _____ milliamperes. (Pg 2-7) T4E07

1,500,000 hertz is the same as _____ kHz. (Pg 2-7) T4E08

One kilovolt is the same as _____ volts. (Pg 2-7) T4E09

One microvolt is the same as one-_____ of a volt. (Pg 2-7) T4E10

500 milliwatts is the same as _____ watts. (Pg 2-7) T4E11

A _____ interrupts excessive current flow (power) in the case of an overload. (Pg 2-11) T0A04

If you use a larger fuse than recommended you could damage your equipment or _____ ___ _____ . (Pg 2-11) T0A05

_____ describes the number of times an alternating current flows back & forth in one second. (Pg 2-15) T4B02

The standard unit of measurement for frequency is _____. (Pg 2-15) T4A05

60 hertz means 60 _____ _____ _____ . (Pg 2-15) T4B03

The distance a radio wave travels in one complete cycle is its _____ . (Pg 2-15) T4B01

Wavelength equals _____ divided by the frequency in _____ . (Pg 2-16) T4B07

As the wavelength of a radio wave gets _____ the frequency increases. (Pg 2-16 & Supplement) T4B06

Electromagnetic waves with a frequency greater than 20,000 Hz are _____ waves. (Pg 2-17) T4B04

_____ is often used to refer to different bands amateur radio operators use. (Pg 2-18 & Supplement) T4B09

When you hear someone use phone mode they are using their _____ . (Pg 2-18) T6A01

_____ frequencies are sound waves in the range between 300 and 3000 Hertz. (Pg 2-20) T4B08

Single sideband is a form of _____ modulation. (Pg 2-21) T6A02

_____ voice modulation is often used for long distance and weak signal contacts. (Pg 2-21 & Supplement) T6A04

The primary advantage of SSB over FM is the smaller _____ of SSB. (Pg 2-21 & Supplement) T6A08

The approximate bandwidth of SSB is _____ to _____ kHz and FM is _____ to _____ kHz. (Supplement) T6A09, T6A10

When using SSB on VHF and UHF usually the _____ sideband is used. (Supplement) T6A07

A _____ antenna has elements parallel to the earth. (Pg 2-23) T9A03

_____ cable is easy to use and can be run next to other metal surfaces without affecting the signal inside. (Pg 2-25) T9C12

Most coaxial cable used by amateur radio operators has an impedance of _____ ohms. (Pg 2-26) T9C11

A _____ wattmeter reads both forward and reflected power and can be used in place of an SWR meter. (Pg 2-26) T9C06

An SWR reading of _____ to _____ indicates a perfect match. (Pg 2-26) T9C02

_____ is a measure of how well a load (antenna) is matched to a transmitter. (Pg 2-26) T9C01

Most solid state transceivers operate at full power up to an SWR of _____ to _____ . (Pg 2-26) T9C04

High or erratic changes in SWR might be caused by a _____ connection in the antenna or feedline. (Pg 2-26) T9C03

A rapid fluttering sound heard on signals from a moving station is called _____ _____ . (Pg 2-28) T9B10

VHF and UHF signals aren't normally heard over long distances because they pass through and are not reflected by the _____ . (Pg 2-29) T9B01

_____ propagation is occurring when VHF and UHF signals are reflected back to earth allowing long distance communication. (Pg 2-30) T9B02

On a transceiver the operating frequency may be selected by entering the frequency on a _____ or turning a _____ knob. (Pg 3-2) T5B03

The _____ menu function, if available, sets the tuning rate of the VFO knob. (Pg 3-2) T5B10
To quickly tune to a frequently used or favorite frequency you can store the frequency in a _____ channel. (Pg 3-2) T5B05

In addition to the frequency, memories may also store _____ level and repeater access _____ (CTCSS). (Pg 3-3 and Supplement) T5B02

The "up" and "down" buttons on many mics are for changing _____ or _____ _____ . (Pg 3-3) T5B07

The "function" or "F" key found on many transceivers selects an _____ function. (Pg 3-3) T5B11

Use a _____ _____ to avoid causing interference when adjusting or testing your transmitter. (Pg 3-4) T9A07

If the microphone gain is set too high causing excessive modulation speech may be _____ . (Pg 3-4) T5B01

The _____ control is used to quiet the receiver audio when no signal is present. (Pg 3-7) T5B04

The control on a transceiver labeled RIT stands for _____ _____ _____ . (Pg 3-7) T5B09

You can turn on the _____ _____ to remove ignition noise from the received audio. (Pg 3-7) T5B06

If you are transmitting and receiving on the same frequency you are operating _____ . (Pg 3-8) T5C08

The two most important pieces of information you need for repeater operation are the repeater's _____ and _____ frequencies. (Pg 3-8) T5B03

When using a repeater the terms "input" and "output" frequency mean the repeater _____ on one frequency and _____ on another frequency. (Pg3-8) T5C09

The most common frequency offset for repeaters in the 2 meter band is _____ kHz or _____ Mhz. (Pg 3-9) T5C05
The most common frequency offset for repeaters in the 70 centimeter band is _____ Mhz. (Pg 3-9) T5C06

The _____ control adjusts the offset between the transceiver's transmit and receive frequency. (Pg 3-9) T5B08

To use packet radio you connect a _____ _____ _____ between your transceiver and computer. (Pg 3-10) T5A08

True or False – For a packet radio station you need to use a microphone. (Pg 3-10) T5A09

For some digital modes you connect your radio to the computer _____ _____ . (Pg 3-10) T5A10

A _____ station provides a connection to the internet. (Pg 3-11) T6A03

A $\frac{1}{2}$ wavelength dipole antenna for the 6 meter band is approximately _____ inches long. (Pg 3-12 & Supplement) T9A12

A $\frac{1}{4}$ wavelength vertical antenna for 146 Mhz is approximately _____ inches long. (Pg 3-13 & Supplement) T9A11

An antenna that is mounted perpendicular to the earth's surface is a _____ antenna. (Pg 3-13) T9A02

An advantage of a _____ wavelength over a $\frac{1}{4}$ wavelength vertical is it has a lower angle of radiation focusing more energy towards the horizon thus improving range. (Pg 3-14) T9A06

A type of mobile antenna which can be installed and removed easily is a _____ mount antenna. (Pg 3-14) T9A09

A _____ antenna concentrates signals in one direction. (Pg 3-14) T9A01

Quads and Yagis are examples of _____ antennas. (Pg 3-14) T9A08

Power lost in a coaxial cable or feed line is converted into _____ . (Pg 3-17) T9C05

It's important to have a low _____ when using coaxial cable to efficiently transfer power and reduce losses. (Pg 3-18) T9C08
_____ in coaxial cable is the most common cause of failure by degrading effectiveness and increasing losses. (Pg 3-18) T9C07

Most coaxial cable has a black outer covering to protect against _____ damage. (Pg 3-18 & Supplement) T9C10

Coaxial cable that has been exposed to the weather and sunlight for a long time often has high _____ . (Pg 3-18) T9C09

_____ _____ hardware is used on many antennas because it resists corrosion. (Pg 3-23) T0B10

_____ power supplies have less voltage fluctuation and are best for radio equipment. (Pg 3-24) T5A05

A _____ type battery is not designed to be re-charged but must be disposed. (Pg 3-25) T4C08

A nickel-cadmium type battery has a voltage of _____ when fully charged. (Pg 3-25) T4C07

A _____ _____ type battery has the longest life for use in a hand-held radio. (Pg 3-25 & Supplement) T4C06

To get the most energy from a battery it is best to draw the current from it at the _____ rate possible. (Pg 3-26) T4C10

To keep rechargeable batteries in good condition you should store them in a _____ and _____ place, inspected for _____ , and given a maintenance _____ every 6 months. (Pg 3-26) T4C09

A storage battery could _____ if charged or discharged too quickly. (Pg 3-26) T0A11

A 12 volt storage battery presents several hazards including dangerous _____ that can spill, short circuits that could cause a _____ , and explosive _____. (Pg 3-26) T0A10

A hand held radio's signal can be increased by using an _____ antenna instead of the rubber duck antenna. (Pg 3-27) T7A03

For best performance from a hand held transceiver keep the antenna as _____ as possible. (Pg 3-28) T9B07

If two transceivers are not using the same polarization or antenna alignment the signals could be reduced by as much as _____ times. (Pg 3-28) T9B08

Telephone interference is usually caused because telephones are not equipped with _____ _____ components. (Pg 3-31) T0D03

A nearby transmitter causing interference to a telephone is causing the phone to act as a radio _____ . (Pg 3-31) T5D03

A first step in curing telephone interference is to install an ____ _____ at the telephone. (Pg 3-31) T5D04

Receiver front-end overload, also called fundamental overload, is the result of _____ _____ overwhelming a receiver. (Pg 3-31) T3D11 T5D01

In the event of interference caused by front-end overload it is the _____ _____ responsibility to solve the problem. (Pg 3-31) T3D02

A _____ filter should be connected to a TV as a first step in trying to prevent RF overload from a nearby 2-meter transmitter. (Supplement) T5A07

Interference across an entire band causing fragments of conversations to be heard may be caused by a strong signal _____ the receiver. (Pg 3-31) T9B03

To reduce or eliminate or reduce spurious emissions such as harmonics you must place a filter at the _____ . (Pg 3-31) T5A06

Radio frequency _____ may be corrected by ferrite chokes, low-pass filters, high-pass filters, notch filters, or band-pass filters. (Pg 3-31) T5D07

True or False – Doppler shift is a cause of radio frequency interference. (Pg 3-31) T5D02

Cable TV systems can cause or receive _____ if the feed lines are broken or damaged. (Pg 3-32) T3D07

Sources of noise interference may be tracked down using a method called radio _____ finding. (Pg 3-32 & Supplement) T7A05

A high pitched whine on your transmitted signal may be caused by noise on the vehicle's _____ system. (Pg 3-33) T5D10

If a neighbor reports you are interfering with something in his home the first thing you should check is _____ station to make sure it is working properly and not causing interference to anything in your home. (Pg 3-33) T5D08 T5D05

If your neighbor has a _____ device causing interference to your station you should work with your neighbor to find the problem, advise him of the rules, and check your station. (Pg 3-34) T5D09

Hams should always use the _____ power necessary to make the contact. (Pg 4-3) T3B07

The "Q" signal meaning you are receiving interference is _____ . (Pg 4-4) T6C10

The "Q" signal _____ means to change to another frequency. (Pg 4-4) T6C11

A _____ locator or square is a four digit code of two letters followed by two numbers assigned to a geographic location. (Pg 4-5) T7A09

_____ and _____ language is prohibited because it is offensive to some, children may be listening, and it is specifically prohibited by the FCC. (Pg 4-5) T3C05

There is no official list of _____ and _____ words. (Pg 4-5) T3C08

_____ and _____ references should not be used to avoid offending others. (Pg 4-5) T3C06

While not prohibited, hams should avoid _____ subjects such as politics and religion. (Pg 4-5) T3C09

If you hear a station having problems with their rig you should _____ them and offer to _____ with the problem. (Pg 4-6) T0C07

Distortion of SSB signals could be RF energy getting into the _____ circuit of the radio. (Pg 4-6) T5D11

A voluntary agreement outlining operating modes within a band is called a _____ _____ . (Pg 4-9) T3B01, T3B02

Band plans evolved over the years as _____ decided how best to use a band. (Pg 4-11) T3B03

The first thing to do before _____ is to make sure your license gives you permission to operate on that frequency. (Pg 4-12) T3C03

_____ is a procedural signal meaning "I am calling any station." Pg 4-12 T3A08

The first thing you should do when selecting a frequency on which to transmit is _____. (Pg 4-12) T3A01

If you want to call someone on a repeater or answer a CQ you say the station's _____ followed by your own _____. (Pg 4-12) T3A02, T3A04

On a repeater, instead of saying "CQ" you may simply say your _____. (Pg 4-12) T3A10

You should use the ITU _____ alphabet when identifying your station because the words are internationally recognized substitutes for letters. (Pg 4-13) T3A11

If you are using morse code you should send no faster than you can _____. (Pg 4-13) T6C08

A _____ tone or beep is used on a repeater to indicate when a transmission is complete. (Pg 4-13) T5C02

True or False – No station has exclusive use of a frequency if the FCC has not declared a communications emergency. (Pg 4-14) T3D06

When two stations are talking the best way to enter the conversation is to say your _____ when one of the stations stops transmitting. (Pg 4-14) T3C01

It's a good practice during a contact to _____ briefly between transmissions to allow a breaking station a chance to transmit. (Pg 4-14) T5C04

It's handy to know morse code even when using a repeater so you can recognize a _____ ____ sent in morse code. (pg 4-14) T6C09

A _____ repeater system consists of multiple repeaters connected together to provide a wider coverage area. (Pg 4-15) T5C11

Some good operating practices when using a repeater are to _____ before transmitting, _____ your station legally, and use no more _____than is necessary. (Pg 4-16) T3C02

You, the _____ station is responsible for operating legally when using a repeater. (Pg 4-16) T3B06

If someone tells you your signal through the repeater is distorted or weak it could be you are slightly off _____, your _____ are weak, or you could be in a bad _____. (Pg 4-17) T5D12

A repeater _____ may limit or restrict access or use of their repeater. (Pg 4-17) T5C13

Use of a _____ repeater is restricted to members of a club or group who support the repeater. (Pg 4-17) T5C14

Repeater _____ reduces interference between repeaters and promotes wise use of the amateur bands. (Pg 4-17) T3B05, T5C12

Each local area has its own recognized _____ coordinator. (Pg 4-18) T3B04

Using _____ , when possible, instead of a repeater avoids tying up a repeater which covers a large area. (Pg 4-18) T5C09

You can see if you are close enough to another station to use simplex instead of a repeater by listening on the repeater's _____ frequency. (Pg 4-18) T5C10

IRLP is a method of connecting two or more amateur stations using the _____. (Pg 4-18) T6B06

IRLP stands for _____ _____ _____ Project. (Pg 4-18) T6B02

Echolink is another method of linking stations via the _____ . (Pg 4-18) T6B01

Both Echolink and IRLP use a technology known as _____ over _____ _____. (Pg 4-18) T6B04, T6B05

To access an IRLP node you must know the control code to enter on your transceiver's _____. (Pg 4-19 & Supplement) T6B11

It is important for a Net Control Station (NCS) to have a _____ and _____ signal. (Pg 4-21) T8C06

After checking into an emergency net you should not _____ until you are asked to do so. (Pg 4-21) T8C03

The net control station should _____ all lower priority net activity whenever someone with breaks in with emergency traffic. (Pg 4-21 & Supplement) T8C07

_____ traffic has the highest priority. (Pg 4-21) T8C01

In the event of an emergency and no NCS is available _____ should open the net and ask for check-ins. (Pg 4-21) T8C08

The _____ of a message (radiogram) consists of information needed to track the message though the system. (Pg 4-22) T8C09

The _____ in a message is a count of the number of words in the message. (Pg 4-22) T8C10

The recommended maximum number of words in the text of a message is _____. (Pg 4-22) T8C11

In an emergency message the item that must be included is the _____ of the _____ originating the message. (Pg 4-23) T8C04

In an _____ situation you may use any communication means available to respond, including communicating with stations in other radio services. (Pg. 4-24) T8A02, T8B08, T8B11

The _____ rules apply even if you are using your amateur station at the request of a public safety agency. (Pg 4-24) T3D09

True or False – You may transmit news messages and reports for a reporter during an emergency. (Pg 4-24) T8B10

_____ information concerning victims should not be transmitted over amateur frequencies during emergencies. (Pg4-25) T8C02

_____ _____ could be used to pass sensitive messages so they are less likely to be overheard by the public. (Pg 4-25) T8C05

Special _____ or rules are included in an FCC declaration of a temporary state of communications emergency. (Pg 4-25) T8A01

An FCC declared communications emergency is the only time that a frequency is legally _____ to one use. (Pg 4-25) T8A06

No _____ has the exclusive use of a frequency unless the FCC declares a communications emergency. (Pg 4-25) T8A07

You may make an emergency call on any frequency if you are in immediate _____. (Pg 4-25) T8B02

To make an emergency call you say _____ three times followed by "any station come in please" and identify your station. (Pg 4-25) T8A09

If you make a false distress call your license could be _____, or you could be _____, or be sent to _____ . (Pg 4-25) T8A10
Tactical call signs increase _____ and smooth _____ . (Pg 4-26) T8A05

A car _____ could be used as an alternative power source in a emergency. (Pg 4-27) T8B07

When operating a hand-held transceiver away from home it is useful to have a spare _____ _____ available. (Pg 4-27) T7A01

RACES and ARES both provide communications during _____ . (Pg 4-27) T3D10

_____ supports organizations like the Red Cross, Salvation Army, and National Weather Service. (Pg 4-27) T8B04

Any licensed amateur can participate in _____ . (Pg 4-27) T8B06

To participate in _____ you must first register with the responsible civil defense organization. (Pg 4-27) T8B05

In a radio _____ competitors try to make as may short contacts in a fixed period of time as possible. (Pg 4-30) T7A07

A _____ _____ station operates for a short period to commemorate an activity of special significance. (Pg 4-30) T7A10

A _____ far enough above the Earth can allow amateurs to talk between countries. (Pg 4-31) T7B03

Any amateur may use a satellite as long as they are licensed to transmit on the _____ frequency of the satellite. (Pg 4-31) T7B01

_____ shift is a change in satellite signal frequency due caused by motion through space. (Pg 4-31) T7B07

The initials LEO stand for _____ _____ _____ . (Pg 4-31) T7B11

A Technician class licensee may contact the International Space Station and speak with an _____ . (Pg 4-31) T7B04

The satellite sub-band on 70 cm is from _____ Mhz to _____ Mhz. (Pg 4-31) T7B10

_____ is the organization that coordinates the building and launch of most amateur satellites. (Pg 4-32) T7B08

May digital modes have the ability to automatically correct _____ . (Pg 4-33) T5D13

_____ _____ is the most common digital mode. (Pg 4-33) T6C01

The letters PSK stand for _____ _____ _____ . (Pg 4-34) T6C06

The term APRS means _____ _____ _____ _____ . (Pg 4-34) T6C02

To use APRS you need a _____ _____ _____ receiver in addition to your normal radio and a TNC. (Pg 4-34) T6C03

The term NTSC indicates the transmission of standard fast scan color _____ signals. (Pg 4-36) T6C04

When controlling a model craft amateurs may use up to _____ watt of output power. (Pg 4-36) T7A11

The only identification necessary for an RC transmitter is a label attached showing the _____ and _____ of the licensee. (Pg 4-36) T7A12

An amateur radio station is a station in the _____ service consisting of the apparatus necessary for carrying on _____ communications. (Pg 5-3) T1A09

Anyone can get an amateur radio license except a representative of a _____ government. (Pg 5-3) T1D02

A person can hold _____ amateur operator / primary station licenses. (Pg 5-3) T2C02

The three classes of amateur radio licenses being granted are _____ , _____, and _____ . (Pg 5-4) T1A03

_____ (number) of Volunteer Examiners with a _____ class license or higher are required to give a Technician exam. (Pg 5-4) T1A06

A CSCE is valid for _____ days. (Pg 5-7) T1A05

After passing your exam you may transmit as soon as your information shows up in the _____ database. (Pg 5-7) T1D05

You amateur license is valid for _____ years but if you forget to renew you have a _____ year grace period so apply for a new license without having to retake the exam. (Pg 5-7) T1D11, T1D07

Your station must be operated in accordance with the _____ rules. (Pg 5-8) T1D08

Just in case the FCC needs to contact you by mail you must maintain a valid current _____ _____ in their database. (Pg 5-8) T1D10

Technician class licensees have mode restricted sub-band on the ____ meter, _____ meter, and _____ meter bands. (Pg 5-13) T3B08

Only the _____ mode is permitted between 50.0 – 50.1 Mhz. (Pg 5-14) T3B09

When amateur are secondary users on a band they may not cause harmful _____ to the primary users. (Pg 5-15) T1C09

The ITU is the _____ _____ _____ . (pg 5-16) T1B01

The three ITU _____ are used to assist in managing frequency allocations. (Pg 5-16) T1B02

A _____ _____ agreement allows you to operate you station in a foreign country. (Pg 5-17) T1B07

The first letter of all U.S. call signs must be ____ , ____ , ____, or ____. (Pg 5-18) T1B09

The number used in U.S. call signs is a single digit, _____ through _____. (Pg 5-18) T1B10

Call signs are always assigned in _____ order. (Pg 5-19) T1B03

The designator /AG means _____ _____ . (Pg 5-20) T2B11

The _____ call sign program allows you to choose a call. (Pg 5-20) T1B04

A club may obtain a call sign by applying through a Club Station _____ _____ Administrator. (Pg 5-20 & Supplement) T1B05 (Note-HRLM 1st Printing is WRONG)

_____ FCC licensed amateur is eligible to apply for a temporary 1 x 1 Special Event call sign. (Pg 5-20) T1B06

An amateur station must always have a _____ operator whenever transmitting. (Pg 6-1) T2C01, T2C05

A _____ operator is the amateur responsible for making sure the station's transmissions comply with the FCC rules. (Pg 6-1) T2C12, T2C04

As a minimum you must hold a _____ class amateur license to be the control operator for a repeater station. (Pg 6-1) T2C03

The station's control function is performed at the control _____. (Pg 6-1) T2C06

You must transmit your _____ to identify your station. (Pg 6-3) T2B01

A transmission with no station identification is called an _____ communication or signal. (Pg 6-3) T2B02

You must give your call sign at least once every _____ minutes during the contact and when the contact is _____ . (Pg 6-3) T2B03, T2B06

If you are communicating in a language other than English, you are required to _____ in English. (Pg 6-3) T2B07

A repeater station may identify by _____ , _____ code, or _____. (Pg 6-5) T2B04

A transmission that disturbs other communication is called _____ interference. (Pg 6-6) T1A10
When testing your transmitter always use a _____ load. (Pg 6-7) T3D08

Intentionally interfering with another station's communication is _____ allowed. (Pg 6-7) T3D05

Sending or receiving a message on behalf of an unlicensed person is called _____ - _____ communications. (Pg 6-9) T2D05

When a control operator is physically present at a transmitter, such as a handheld radio, the operator is using _____ control. (Pg 6-10) T2C10

_____ control is when the control operator is not at the transmitter but can make changes to it. (Pg 6-10) T2C11

A repeater normally operates under _____ control. (Pg 6-10) T2C09

An _____ controlled station might not have a control operator at a control point at all times. (Pg 6-10) T2C07

Unidentified communications may only be transmitted when sent from a _____ station or to control a _____ craft. (Pg 6-11) T2A05

_____ communications that could reasonably be performed through an alternative radio service are not permitted in the amateur service. (Pg 6-11) T1C11

Using amateur radio to conduct your _____ is not permitted. (Pg 6-11) T2D04

True or False – It is prohibited to use the repeater autopatch to call your employer requesting directions to a customer's office. (Pg 6-11) T2A10

Amateurs may only use encryption techniques when sending control commands to _____ stations or for radio _____ of model craft. (Pg 6-12) T2A03

Broadcasting consists of _____ transmissions intended for reception by the general public. (Pg 6-12) T2A06

_____ is not allowed in the amateur service. (Pg 6-12) T2A01, T2A08

You must have approval of the _____ to operate your amateur station aboard an aircraft. (Pg 6-12) T2D07

Voltage as low as _____ volts can cause a dangerous electric shock. (Pg 7-2) T0A01
Current as low as _____ milliamperes can disrupt th heart and cause death.
(Pg 7-2 & Supplement) T0A02 (Note: HRLM 1st printing text is incorrect.)

You may receive an electric shock even when equipment is turned off from voltage stored in a _____ . (Pg 7-3) T0A13

The green wire in a three-wire electrical plug is connected to _____ .
(Pg 7-3) T0A03

If lightning is anticipated you should _____ the antenna cables and _____ equipment power cords. (Pg 7-6) T0A08

The most important reason to have lightning protection is for _____ prevention.
(Pg 7-6 & Supplement) T0A12

Radio frequency (RF) energy is _____ radiation. (Pg 7-7) T0C01

Injury to the human body by radio waves is caused by the body _____ RF energy. (Pg 7-7 & Supplement) T0C02, T0C05

RF radiation exposure is measured in _____ per _____ _____.
(Pg 7-7) T0C10

_____ _____ takes into account the amount of time a transmitter is operating. (Pg 7-9) T0C11

_____ watts PEP at the antenna is the maximum power you may use above 30 Mhz without having to perform an RF exposure evaluation. (Pg 7-11) T0C03

Once you've done an RF exposure evaluation you don't need to re-evaluate unless you make a _____ to your station. (Pg 7-11) T0C09

When installing an antenna near an airport you have to consider the maximum allowed _____ of structures near an airport. (Pg 7-13) T0B05

An important consideration when installing an antenna is making sure _____ cannot accidentally come into contact with it. (Pg 7-13 - 7-14) T0B04

When putting up an antenna you should aways look for and stay away from overhead _____ _____ . (Pg 7-14) T0B06

An antenna, should it fall unexpectedly, should have a minimum of _____ feet of clearance. (Pg 7-14) T0B08

To protect your head and eyes when on the ground helping someone on a tower always were a _____ _____ and _____ _____ . (Pg 7-15) T0B01

Climb a _____ - _____ tower only when it is fully nested and blocked. (Pg 7-15) T0B09