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FCC Novice Exam Question Pool. Subelement 2D.
Amateur Radio Practice. 4 Questions.

One (1) question must be from the following:

2D 1.1 B

How can an Amateur Station be protected against being operated by unauthorized persons?

- A. Install a carrier operated relay in the main power line.
- B. Install a key operated ON/OFF switch in the main power line.
- C. Post a "Danger - High Voltage" sign in the station.
- D. Install AC line fuses in the main power line.

2D 2.1 D

Why should all antenna and rotor cables be grounded when an Amateur Station is not in use?

- A. To lock the antenna system in one position.
- B. To avoid radio frequency interference.
- C. To save electricity.
- D. To protect the station and building from damage due to a nearby lightning strike.

2D 2.2 C

How can an antenna system be protected from damage due to a nearby lightning strike?

- A. Install a balun at the antenna feed point.
- B. Install an RF choke in the feed line.
- C. Ground all antennas when not in use.
- D. Install a line fuse in the antenna wire.

2D 2.3 D

How can Amateur Station equipment be protected from damage due to lightning striking the electrical wiring of the building?

- A. Use heavy insulation on the wiring.
- B. Keep the equipment ON constantly.
- C. Disconnect the ground system.
- D. Disconnect all equipment after use, either by unplugging

or by using a main disconnect switch.

2D 3.1 B

For proper protection from lightning strikes, what pieces of equipment should be grounded in an Amateur Station?

- A. The power supply primary.
- B. All station equipment.
- C. The feed line center conductors.
- D. The AC power mains.

2D 3.2 A

What is a convenient indoor grounding point for an Amateur Station?

- A. A metallic cold water pipe.
- B. PVC plumbing.
- C. A window screen.
- D. A natural gas pipe.

2D 3.3 C

To protect against electrical shock hazards, to what should the chassis of each piece of equipment in an Amateur Station be connected?

- A. Insulated shock mounts.
- B. The antenna.
- C. A good ground connection.
- D. A circuit breaker.

2D 4.1 D

When climbing an antenna tower, what type of safety equipment should be worn?

- A. Grounding chain.
- B. A reflective vest.
- C. Long pants.
- D. A safety belt.

2D 4.2 A

For safety purposes, how high should all portions of a horizontal wire antenna be located?

- A. High enough so that a person can not touch them from the ground.
- B. Higher than chest level.
- C. Above knee level.
- D. Above electrical lines.

2D 4.3 D

While assisting another person working on an antenna tower, what type of safety equipment should a person on the ground wear?

- A. A reflective vest.
- B. A safety belt.
- C. A grounding chain.
- D. A hard hat.

One (1) question must be from the following:

2D 5.1 B

What is a likely indication that radio frequency interference to a receiver is caused by Front-End Overload?

- A. A low pass filter at the transmitter reduces interference sharply.
- B. The interference is independent of frequency.
- C. A high pass filter at the receiver reduces interference little or not at all.
- D. Grounding the receiver makes the problem worse.

2D 5.2 C

What is likely the problem when radio frequency interference occurs to a receiver regardless of frequency, while an Amateur Station is transmitting?

- A. Inadequate transmitter harmonic suppression.
- B. Receiver VR tube discharge.
- C. Receiver overload.
- D. Incorrect antenna length.

2D 5.3 B

What type of filter should be installed on a TV receiver as the first step in preventing Overload from an Amateur Radio Station Transmission?

- A. Low Pass.
- B. High Pass.
- C. Band Pass.
- D. Notch.

2D 5.4 C

What is meant by RECEIVER OVERLOAD?

- A. Interference caused by transmitter harmonics.
- B. Interference caused by overcrowded band conditions.
- C. Interference caused by strong signals from a nearby transmitter.
- D. Interference caused by turning the receiver volume too high.

2D 6.1 A

What is meant by HARMONIC RADIATION?

- A. Transmission of signals at whole number multiples of the fundamental (desired) frequency.
- B. Transmission of signals that include a Superimposed 60 Hz. Hum.
- C. Transmission of signals caused by sympathetic vibrations from a nearby transmitter.
- D. Transmission of signals to produce a stimulated emission in the air to enhance skip propagation.

2D 6.2 A

Why is harmonic radiation by an Amateur Station undesirable?

- A. It will cause interference to other stations and may result in Out-Of-Band radiation.
- B. It uses large amounts of electric power.
- C. It will cause sympathetic vibrations in nearby transmitters.
- D. It will produce stimulated emission in the air above the transmitter, thus causing Aurora.

2D 6.3 A

What type of interference may radiate from a multiband antenna connected to an improperly tuned transmitter?

- A. Harmonic radiation.

- B. Auroral distortion.
- C. Parasitic radiation.
- D. Intermodulation.

2D 6.4 C

What is the purpose of shielding in a transmitter?

- A. It give the Low Pass filter structural stability.
- B. It enhances the microphonic tendencies of radiotelephone transmitters.
- C. It prevents unwanted RF radiation.
- D. It helps maintain a sufficiently high operating temperature in circuit components.

2D 6.5 D

What is the likely problem when interference is observed on only one or two channels of a TV receiver while an Amateur Station is transmitting?

- A. Excessive Low Pass filtering.
- B. Sporadic E Deionization.
- C. Receiver Front End Overload.
- D. Harmonic Radiation.

2D 6.6 B

What type of filter should be installed on an Amateur Transmitter as the first step in reducing harmonic radiation?

- A. Key Click filter.
- B. Low Pass filter.
- C. High Pass filter.
- D. CW filter.

One (1) question must be from the following:

2D 7.1 B

Why should the impedance of a transmitter final amplifier circuit match the impedance of the antenna or feed line?

- A. To prevent sympathetic vibrations in nearby radio equipment.
- B. To obtain maximum power transfer to the antenna.
- C. To help maintain sufficiently high operating

temperature in circuit components.

- D. To create the maximum number of standing waves on the feed line.

2D 7.2 C

What is the term for the measurement of the impedance match between a transmitter final amplifier circuit and the antenna or feed line?

- A. Voltage Flyback ratio.
- B. Impedance Sine ratio.
- C. Standing Wave ratio.
- D. Current Overfeed ratio.

2D 7.3 A

What accessory is used to measure RF power being reflected back down the feed line from the transmitter to the antenna?

- A. SWR Meter.
- B. RF Tuner
- C. S Meter.
- D. Field Strength Meter

2D 7.4 C

What accessory is often used to measure voltage standing wave ratio?

- A. Ohmmeter.
- B. Ammeter.
- C. SWR Bridge.
- D. Current Bridge.

2D 7.5 D

Where should a Standing Wave Ratio Bridge be connected to indicate the impedance match of a transmitter and an antenna?

- A. Between the antenna and matchbox.
- B. Between the key and transmitter.
- C. Between the mike and transmitter.
- D. Between the transmitter and matchbox.

2D 7.6 B

Coaxial Feed Line should be operated with

what kind of Standing Wave Ratio?

- A. As high as possible.
- B. As low as possible.
- C. Standing Wave Ratio is not important.
- D. Standing Wave Ratio cannot be measured in a Coaxial Cable.

2D 7.7 D

If the Standing Wave Ratio Bridge reading is higher at 3700 kHz. than at 3750 kHz., what does this indicate about the antenna?

- A. Too long for optimal operation at 3700 kHz.
- B. Broadbanded.
- C. Good only for 37 meter operation.
- D. Too short for optimal operation at 3700 kHz.

2D 7.8 A

If the Standing Wave Ratio Bridge reading is lower at 3700 kHz. than at 3750 kHz., what does this indicate about the antenna?

- A. Too long for optimal operation at 3700 kHz.
- B. Broadbanded.
- C. Good only for 37 meter operation.
- D. Too short for optimal operation at 3700 kHz.

2D 8.1 A

What kind of Standing Wave Ratio Bridge reading may indicate poor electrical contact between parts of an antenna system?

- A. An erratic reading.
- B. An unusually low reading.
- C. No reading at all.
- D. A negative reading.

2D 8.2 A

High Standing Wave Ratio Bridge readings measured from a Half-Wave Dipole antenna being feed by Coaxial Cable can be lowered by doing what to the antenna?

- A. Change the electrical length of the antenna.
- B. Reduce the diameter of the antenna's radiating element.

- C. Connect a short jumper wire across the antenna's center insulator.
- D. Use a feed line having less loss per foot.

One (1) question must be from the following:

2D 9.1 B

What precautions should you take when working with a 1270 MHz. Waveguide?

- A. Make sure that the RF Leakage Filters are installed at both ends of the waveguide.
- B. Never look into the open end of the waveguide when RF is applied.
- C. Minimize the Standing Wave Ratio before you test the waveguide.
- D. Never have both ends of the waveguide open at once when RF is applied.

2D 9.2 A

What precautions should you take when you mount a VHF or UHF antenna in a permanent location?

- A. Make sure that no one can be near the antenna when you are transmitting.
- B. Make sure the RF shield screens are in place.
- C. Make sure the antenna is near the ground to maximize the directional effects.
- D. Make sure you install an RF Leakage Filter at the antenna feed point.

2D 9.3 C

What precautions should you take before removing the shielding on a VHF or UHF Power Amplifier?

- A. Make sure all RF screens are in place at the antenna.
- B. Make sure the feedline is properly grounded.
- C. Make sure the amplifier cannot be accidentally energized.
- D. Make sure that the RF Leakage Filters are connected.

2D 9.4 A

Why should you use only good quality, well constructed Coaxial Cable and connectors for a VHF or UHF antenna system?

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- A. To minimize RF Leakage.
- B. To reduce Parasitic Oscillations.
- C. To maximize the directional characteristics of your antenna.
- D. To maximize the Standing Wave Ratio of the antenna system.

2D 9.5 B

Why should you be careful to position the antenna of your 220 MHz. Hand Held Transciever away from your head when you are transmitting?

- A. To take advantage of the directional effect.
- B. To minimize RF exposure.
- C. To use your body to reflect the signal, improving the directional characteristics of the antenna.
- D. To minimize static discharges.

2D 9.6 D

How can you minimize RF Exposure when you are operating your 220 MHz. Hand Held Transciever.

- A. Position the antenna near the ground.
- B. Use a shielded RF screen around your antenna.
- C. Use a special short STUBBY DUCK antenna.
- D. Position the antenna away from your head.

2D 9.7 D

Why should you be careful to position the antenna of your 1270 MHz. Hand Held Transciever away from your head when you are transmitting?

- A. To take advantage of the directional effect.
- B. To use your body to reflect the signal, improving the directional characteristics of the antenna.
- C. To minimize static discharges.
- D. To minimize RF exposure.

2D 9.8 D

How can you minimize RF Exposure when you are operating your 1270 MHz. Hand Held Transciever.

- A. Position the antenna near the ground.
- B. Use a shielded RF screen around your antenna.
- C. Use a special short STUBBY DUCK antenna.

D. Position the antenna away from your head.

2D 9.9 B

How can you minimize RF Leakage from your VHF or UHF antenna system?

- A. Use open wire line for the antenna feed line.
- B. Use only good quality, well constructed Coaxial Cable and connectors.
- C. Use special shielded AC line cords with all your equipment.
- D. Use an RF Leakage Filter on the antenna feed line.

2D 9.10 B

Why should you make sure your VHF or UHF amplifier cannot be energized before you open the amplifier enclosure.

- A. To minimize static discharge when you open the enclosure.
- B. To minimize RF Exposure and prevent electrical shock.
- C. To minimize the effect of hand capacitance.
- D. To prevent prevent exposure to Cerenkov Radiation from the amplifier.

2D 9.11 B

Why should you never look into a VHF or UHF waveguide when RF is applied?

- A. Because the fluorescent coating inside the waveguide gets very bright.
- B. Because exposure to VHF or UHF RF Energy can be harmful to your eyes.
- C. Because the waveguide might not be properly grounded.
- D. Because the Cerenkov Effect may scatter RF energy.

2D 9.12 B

Why should you be sure that your transmitter cannot be energized before you work on your VHF or UHF antennas?

- A. Because operating the transmitter when the antennas are disconnected might harm the transmitter.
- B. Because exposure to VHF or UHF RF Energy can be harmful.
- C. Because if the transmitter is operated while you are touching the antenna, the radiated energy might be out of the Amateur Band.
- D. Because accidental operation might blow a fuse.

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End of Subelement 2D.