

Below are 6 General quizzes good until June 30, 2023.

Take a quiz. Grade a quiz. For those questions you got wrong, look up the question's G code in one of the below books and understand what is the correct answer. Once you have completed one quiz, take the next quiz.

Study books, for use until June 30, 2023 may be available at your local library and at:

<http://www.arrl.org/general-class-license-manual>

https://www.gordonwestradioschool.com/main/page_w5yi_training_resources.html

If you do not write or take notes in your book, please consider donating your study book to your local library to help others study for the General license test.

Find an exam session:

<http://www.arrl.org/find-an-amateur-radio-license-exam-session>

What to bring to an exam session:

<http://www.arrl.org/what-to-bring-to-an-exam-session>

The exam fee (<http://www.arrl.org/arrl-vec-exam-fees>) allows student to take one version of exam. Exam retakes will cost an additional fee.

Frequency Chart: <http://www.arrl.org/graphical-frequency-allocations>

Ham-In-A-Day Study Session schedule.

At least 1 week before the class, the students MUST complete all 6 quizzes and bring the quizzes to the Study Session.

Class schedule

0800 - 0900 Quiz 1. 15 minutes for student to review quiz; 35 minutes for class discussion on quiz; 10 minute break

0900 - 1000 Quiz 2. Same format

1000 - 1100 Quiz 3 & 4. Same format

1100 - 1200 Quiz 5 & 6. Same format

1200 - 1300 Lunch and student reviews Quizzes 1 - 6

1300 - 1400 Review and General Exam.

Questions (quizzes, exams, ARES or RACES)? Please contact me at kb9ezz@arrl.net

73, Joe

1 1 G1A10

Which of the following frequencies is available to a control operator holding a General class license?

- A. 28.020 MHz
- B. 28.350 MHz
- C. 28.550 MHz
- D. All these choices are correct

1 2 G1B07

What are the restrictions on the use of abbreviations or procedural signals in the Amateur Service?

- A. Only "Q" signals are permitted
- B. They may be used if they do not obscure the meaning of a message
- C. They are not permitted
- D. Only "10 codes" are permitted

1 3 G1C05

What is the limit for transmitter power on the 28 MHz band for a General Class control operator?

- A. 100 watts PEP output
- B. 1000 watts PEP output
- C. 1500 watts PEP output
- D. 2000 watts PEP output

1 4 G1D05

Which of the following must a person have before they can be an administering VE for a Technician class license examination?

- A. Notification to the FCC that you want to give an examination
- B. Receipt of a Certificate of Successful Completion of Examination (CSCE) for General class
- C. Possession of a properly obtained telegraphy license
- D. An FCC General class or higher license and VEC accreditation

1 5 G2E09

How do you join a contact between two stations using the PACTOR protocol?

- A. Send broadcast packets containing your call sign while in MONITOR mode
- B. Transmit a steady carrier until the PACTOR protocol times out and disconnects
- C. Joining an existing contact is not possible, PACTOR connections are limited to two stations
- D. Send a NAK response continuously so that the sending station must stand by

1 6 G1E03

What is required to conduct communications with a digital station operating under automatic control outside the automatic control band segments?

- A. The station initiating the contact must be under local or remote control
- B. The interrogating transmission must be made by another automatically controlled

station

- C. No third-party traffic may be transmitted
- D. The control operator of the interrogating station must hold an Amateur Extra Class license

1 7 G2A02

Which of the following modes is most commonly used for voice communications on the 160-meter, 75-meter, and 40-meter bands?

- A. Upper sideband
- B. Lower sideband
- C. Vestigial sideband
- D. Double sideband

1 8 G2B04

When selecting a CW transmitting frequency, what minimum separation should be used to minimize interference to stations on adjacent frequencies?

- A. 5 to 50 Hz
- B. 150 to 500 Hz
- C. 1 to 3 kHz
- D. 3 to 6 kHz

1 9 G2C04

What does the Q signal "QRL?" mean?

- A. "Will you keep the frequency clear?"
- B. "Are you operating full break-in?" or "Can you operate full break-in?"
- C. "Are you listening only for a specific station?"
- D. "Are you busy?" or "Is this frequency in use?"

1 10 G2D11

Which of the following is typical of the lower HF frequencies during the summer?

- A. Poor propagation at any time of day
- B. World-wide propagation during the daylight hours
- C. Heavy distortion on signals due to photon absorption
- D. High levels of atmospheric noise or "static"

1 11 G3A05

What is the solar flux index?

- A. A measure of the highest frequency that is useful for ionospheric propagation between two points on Earth
- B. A count of sunspots that is adjusted for solar emissions
- C. Another name for the American sunspot number
- D. A measure of solar radiation at 10.7 centimeters wavelength

1 12 G3B07

What does LUF stand for?

- A. The Lowest Usable Frequency for communications between two points
- B. The Longest Universal Function for communications between two points

- C. The Lowest Usable Frequency during a 24-hour period
- D. The Longest Universal Function during a 24-hour period

1 13 G3C04

What does the term "critical angle" mean, as used in radio wave propagation?

- A. The long path azimuth of a distant station
- B. The short path azimuth of a distant station
- C. The lowest takeoff angle that will return a radio wave to Earth under specific ionospheric conditions
- D. The highest takeoff angle that will return a radio wave to Earth under specific ionospheric conditions

1 14 G4A10

What is the purpose of an electronic keyer?

- A. Automatic transmit/receive switching
- B. Automatic generation of strings of dots and dashes for CW operation
- C. VOX operation
- D. Computer interface for PSK and RTTY operation

1 15 G4B04

What signal source is connected to the vertical input of an oscilloscope when checking the RF envelope pattern of a transmitted signal?

- A. The local oscillator of the transmitter
- B. An external RF oscillator
- C. The transmitter balanced mixer output
- D. The attenuated RF output of the transmitter

1 16 G4C01

Which of the following might be useful in reducing RF interference to audio frequency devices?

- A. Bypass inductor
- B. Bypass capacitor
- C. Forward-biased diode
- D. Reverse-biased diode

1 17 G4D05

How does a signal that reads 20 dB over S9 compare to one that reads S9 on a receiver, assuming a properly calibrated S meter?

- A. It is 10 times less powerful
- B. It is 20 times less powerful
- C. It is 20 times more powerful
- D. It is 100 times more powerful

1 18 G4E08

What is the name of the process by which sunlight is changed directly into electricity?

- A. Photovoltaic conversion
- B. Photon emission
- C. Photosynthesis
- D. Photon decomposition

1 19 G5A01

What is impedance?

- A. The electric charge stored by a capacitor
- B. The inverse of resistance
- C. The opposition to the flow of current in an AC circuit
- D. The force of repulsion between two similar electric fields

1 20 G5B07

What value of an AC signal produces the same power dissipation in a resistor as a DC voltage of the same value?

- A. The peak-to-peak value
- B. The peak value
- C. The RMS value
- D. The reciprocal of the RMS value

1 21 G5C01

What causes a voltage to appear across the secondary winding of a transformer when an AC voltage source is connected across its primary winding?

- A. Capacitive coupling
- B. Displacement current coupling
- C. Mutual inductance
- D. Mutual capacitance

1 22 G6A10

Which element of a triode vacuum tube is used to regulate the flow of electrons between cathode and plate?

- A. Control grid
- B. Heater
- C. Screen grid
- D. Trigger electrode

1 23 G6B01

What determines the performance of a ferrite core at different frequencies?

- A. Its conductivity
- B. Its thickness
- C. The composition, or "mix," of materials used
- D. The ratio of outer diameter to inner diameter

1 24 G7A12

Which symbol in Figure G7-1 represents a solid core transformer?

- A. Symbol 4
- B. Symbol 7
- C. Symbol 6
- D. Symbol 1

1 25 G7B08

How is the efficiency of an RF power amplifier determined?

- A. Divide the DC input power by the DC output power

- B. Divide the RF output power by the DC input power
- C. Multiply the RF input power by the reciprocal of the RF output power
- D. Add the RF input power to the DC output power

1 26 G7C07

What is the simplest combination of stages that implement a superheterodyne receiver?

- A. RF amplifier, detector, audio amplifier
- B. RF amplifier, mixer, IF discriminator
- C. HF oscillator, mixer, detector
- D. HF oscillator, prescaler, audio amplifier

1 27 G8A03

What is the name of the process that changes the instantaneous frequency of an RF wave to convey information?

- A. Frequency convolution
- B. Frequency transformation
- C. Frequency conversion
- D. Frequency modulation

1 28 G8B03

What is another term for the mixing of two RF signals?

- A. Heterodyning
- B. Synthesizing
- C. Cancellation
- D. Phase inverting

1 29 G8C08

Which of the following statements is true about PSK31?

- A. Upper case letters are sent with more power
- B. Upper case letters use longer Varicode bit sequences and thus slow down transmission
- C. Error correction is used to ensure accurate message reception
- D. Higher power is needed as compared to RTTY for similar error rates

1 30 G9A01

Which of the following factors determine the characteristic impedance of a parallel conductor antenna feed line?

- A. The distance between the centers of the conductors and the radius of the conductors
- B. The distance between the centers of the conductors and the length of the line
- C. The radius of the conductors and the frequency of the signal
- D. The frequency of the signal and the length of the line

1 31 G9B03

Which of the following best describes the radiation pattern of a quarter-wave, ground-plane vertical antenna?

- A. Bi-directional in azimuth
- B. Isotropic
- C. Hemispherical
- D. Omnidirectional in azimuth

1 32 G9C04

How does antenna gain stated in dBi compare to gain stated in dBd for the same antenna?

- A. dBi gain figures are 2.15 dB lower than dBd gain figures
- B. dBi gain figures are 2.15 dB higher than dBd gain figures
- C. dBi gain figures are the same as the square root of dBd gain figures multiplied by 2.15
- D. dBi gain figures are the reciprocal of dBd gain figures + 2.15 dB

1 33 G9D05

What is an advantage of vertical stacking of horizontally polarized Yagi antennas?

- A. It allows quick selection of vertical or horizontal polarization
- B. It allows simultaneous vertical and horizontal polarization
- C. It narrows the main lobe in azimuth
- D. It narrows the main lobe in elevation

1 34 G0A07

What effect does transmitter duty cycle have when evaluating RF exposure?

- A. A lower transmitter duty cycle permits greater short-term exposure levels
- B. A higher transmitter duty cycle permits greater short-term exposure levels
- C. Low duty cycle transmitters are exempt from RF exposure evaluation requirements
- D. High duty cycle transmitters are exempt from RF exposure requirements

1 35 G0B13

What must you do when powering your house from an emergency generator?

- A. Disconnect the incoming utility power feed
- B. Insure that the generator is not grounded
- C. Insure that all lightning grounds are disconnected
- D. All these choices are correct

General 2019-2023 Quiz 1 Key

1	G1A10 (D)	19	G5A01 (C)
2	G1B07 (B)	20	G5B07 (C)
3	G1C05 (C)	21	G5C01 (C)
4	G1D05 (D)	22	G6A10 (A)
5	G2E09 (C)	23	G6B01 (C)
6	G1E03 (A)	24	G7A12 (C)
7	G2A02 (B)	25	G7B08 (B)
8	G2B04 (B)	26	G7C07 (C)
9	G2C04 (D)	27	G8A03 (D)
10	G2D11 (D)	28	G8B03 (A)
11	G3A05 (D)	29	G8C08 (B)
12	G3B07 (A)	30	G9A01 (A)
13	G3C04 (D)	31	G9B03 (D)
14	G4A10 (B)	32	G9C04 (B)
15	G4B04 (D)	33	G9D05 (D)
16	G4C01 (B)	34	G0A07 (A)
17	G4D05 (D)	35	G0B13 (A)
18	G4E08 (A)		

2 1 G1A07

Which of the following frequencies is within the General class portion of the 20-meter phone band?

- A. 14005 kHz B. 14105 kHz C. 14305 kHz D. 14405 kHz

2 2 G1B03

Which of the following is a purpose of a beacon station as identified in the FCC rules?

- A. Observation of propagation and reception
B. Automatic identification of repeaters
C. Transmission of bulletins of general interest to Amateur Radio licensees
D. Identifying net frequencies

2 3 G1C06

What is the limit for transmitter power on the 1.8 MHz band?

- A. 200 watts PEP output B. 1000 watts PEP output
C. 1200 watts PEP output D. 1500 watts PEP output

2 4 G1D08

Which of the following criteria must be met for a non-U.S. citizen to be an accredited Volunteer Examiner?

- A. The person must be a resident of the U.S. for a minimum of 5 years
B. The person must hold an FCC granted Amateur Radio license of General class or above
C. The person's home citizenship must be in ITU region 2
D. None of these choices is correct; a non-U.S. citizen cannot be a Volunteer Examiner

2 5 G1E09

Under what circumstances are messages that are sent via digital modes exempt from Part 97 third-party rules that apply to other modes of communication?

- A. Under no circumstances B. When messages are encrypted
C. When messages are not encrypted D. When under automatic control

2 6 G2A08

What is the recommended way to break in to a phone contact?

- A. Say "QRZ" several times, followed by your call sign
B. Say your call sign once
C. Say "Breaker Breaker"
D. Say "CQ" followed by the call sign of either station

2 7 G2B11

What frequency should be used to send a distress call?

- A. Whichever frequency has the best chance of communicating the distress message
- B. Only frequencies authorized for RACES or ARES stations
- C. Only frequencies that are within your operating privileges
- D. Only frequencies used by police, fire, or emergency medical services

2 8 G2C10

What does the Q signal "QRN" mean?

- A. Send more slowly
- B. Stop sending
- C. Zero beat my signal
- D. I am troubled by static

2 9 G2D06

How is a directional antenna pointed when making a "long-path" contact with another station?

- A. Toward the rising sun
- B. Along the grayline
- C. 180 degrees from the station's short-path heading
- D. Toward the north

2 10 G2E05

What is the standard sideband used to generate a JT65, JT9, or FT8 digital signal when using AFSK in any amateur band?

- A. LSB
- B. USB
- C. DSB
- D. SSB

2 11 G4C12

Which of the following is an advantage of a receiver DSP IF filter as compared to an analog filter?

- A. A wide range of filter bandwidths and shapes can be created
- B. Fewer digital components are required
- C. Mixing products are greatly reduced
- D. The DSP filter is much more effective at VHF frequencies

2 12 G3A11

How long does it take charged particles from coronal mass ejections to affect radio propagation on Earth?

- A. 28 days
- B. 14 days
- C. 4 to 8 minutes
- D. 20 to 40 hours

2 13 G3B02

What factors affect the MUF?

- A. Path distance and location
- B. Time of day and season
- C. Solar radiation and ionospheric disturbances

D. All these choices are correct

2 14 G3C11

Which ionospheric layer is the most absorbent of long skip signals during daylight hours on frequencies below 10 MHz?

- A. The F2 layer B. The F1 layer C. The E layer D. The D layer

2 15 G4A11

Which of the following is a use for the IF shift control on a receiver?

- A. To avoid interference from stations very close to the receive frequency
B. To change frequency rapidly
C. To permit listening on a different frequency from that on which you are transmitting
D. To tune in stations that are slightly off frequency without changing your transmit frequency

2 16 G4B10

Which of the following can be determined with a directional wattmeter?

- A. Standing wave ratio B. Antenna front-to-back ratio
C. RF interference D. Radio wave propagation

2 17 G4D04

What does an S meter measure?

- A. Conductance B. Impedance
C. Received signal strength D. Transmitter power output

2 18 G4E04

Why is it best NOT to draw the DC power for a 100 watt HF transceiver from a vehicle's auxiliary power socket?

- A. The socket is not wired with an RF-shielded power cable
B. The socket's wiring may be inadequate for the current drawn by the transceiver
C. The DC polarity of the socket is reversed from the polarity of modern HF transceivers
D. Drawing more than 50 watts from this socket could cause the engine to overheat

2 19 G5A08

What is one reason to use an impedance matching transformer?

- A. To minimize transmitter power output
B. To maximize the transfer of power
C. To reduce power supply ripple
D. To minimize radiation resistance

2 20 G5B11

What is the ratio of peak envelope power to average power for an unmodulated carrier?

- A. 0.707 B. 1.00 C. 1.414 D. 2.00

2 21 G5C02

What happens if a signal is applied to the secondary winding of a 4:1 voltage step-down transformer instead of the primary winding?

- A. The output voltage is multiplied by 4
B. The output voltage is divided by 4
C. Additional resistance must be added in series with the primary to prevent overload
D. Additional resistance must be added in parallel with the secondary to prevent overload

2 22 G6A05

What is the approximate junction threshold voltage of a conventional silicon diode?

- A. 0.1 volt B. 0.3 volts C. 0.7 volts D. 1.0 volts

2 23 G6B09

Which of the following is a characteristic of a liquid crystal display?

- A. It utilizes ambient or back lighting
B. It offers a wide dynamic range
C. It consumes relatively high power
D. It has relatively short lifetime

2 24 G7A07

What is the output waveform of an unfiltered full-wave rectifier connected to a resistive load?

- A. A series of DC pulses at twice the frequency of the AC input
B. A series of DC pulses at the same frequency as the AC input
C. A sine wave at half the frequency of the AC input
D. A steady DC voltage

2 25 G7B07

Which of the following are basic components of a sine wave oscillator?

- A. An amplifier and a divider
B. A frequency multiplier and a mixer
C. A circulator and a filter operating in a feed-forward loop
D. A filter and an amplifier operating in a feedback loop

2 26 G7C05

Which of the following is an advantage of a direct digital synthesizer (DDS)?

- A. Wide tuning range and no need for band switching
- B. Relatively high-power output
- C. Relatively low power consumption
- D. Variable frequency with the stability of a crystal oscillator

2 27 G8A10

What is meant by the term "flat-topping," when referring to a single sideband phone transmission?

- A. Signal distortion caused by insufficient collector current
- B. The transmitter's automatic level control (ALC) is properly adjusted
- C. Signal distortion caused by excessive drive
- D. The transmitter's carrier is properly suppressed

2 28 G8B09

Why is it good to match receiver bandwidth to the bandwidth of the operating mode?

- A. It is required by FCC rules
- B. It minimizes power consumption in the receiver
- C. It improves impedance matching of the antenna
- D. It results in the best signal-to-noise ratio

2 29 G8C03

What part of a packet radio frame contains the routing and handling information?

- A. Directory
- B. Preamble
- C. Header
- D. Footer

2 30 G9A03

What is the typical characteristic impedance of "window line" parallel transmission line?

- A. 50 ohms
- B. 75 ohms
- C. 100 ohms
- D. 450 ohms

2 31 G9B04

What is the radiation pattern of a dipole antenna in free space in a plane containing the conductor?

- A. It is a figure-eight at right angles to the antenna
- B. It is a figure-eight off both ends of the antenna
- C. It is a circle (equal radiation in all directions)
- D. It has a pair of lobes on one side of the antenna and a single lobe on the other side

2 32 G9C08

What is meant by the "main lobe" of a directive antenna?

- A. The magnitude of the maximum vertical angle of radiation

- B. The point of maximum current in a radiating antenna element
- C. The maximum voltage standing wave point on a radiating element
- D. The direction of maximum radiated field strength from the antenna

2 33 G9D04

What is the primary purpose of antenna traps?

- A. To permit multiband operation
- B. To notch spurious frequencies
- C. To provide balanced feed-point impedance
- D. To prevent out-of-band operation

2 34 G0A09

What type of instrument can be used to accurately measure an RF field?

- A. A receiver with an S meter
- B. A calibrated field strength meter with a calibrated antenna
- C. An SWR meter with a peak-reading function
- D. An oscilloscope with a high-stability crystal marker generator

2 35 0B04

Which of the following is a primary reason for not placing a gasoline-fueled generator inside an occupied area?

- A. Danger of carbon monoxide poisoning
- B. Danger of engine over torque
- C. Lack of oxygen for adequate combustion
- D. Lack of nitrogen for adequate combustion

General 2019-2023 Quiz 2 Key

1	G1A07 (C)	19	G5A08 (B)
2	G1B03 (A)	20	G5B11 (B)
3	G1C06 (D)	21	G5C02 (A)
4	G1D08 (B)	22	G6A05 (C)
5	G1E09 (A)	23	G6B09 (A)
6	G2A08 (B)	24	G7A07 (A)
7	G2B11 (A)	25	G7B07 (D)
8	G2C10 (D)	26	G7C05 (D)
9	G2D06 (C)	27	G8A10 (C)
10	G2E05 (B)	28	G8B09 (D)
11	G4C12 (A)	29	G8C03 (C)
12	G3A11 (D)	30	G9A03 (D)
13	G3B02 (D)	31	G9B04 (A)
14	G3C11 (D)	32	G9C08 (D)
15	G4A11 (A)	33	G9D04 (A)
16	G4B10 (A)	34	G0A09 (B)
17	G4D04 (C)	35	G0B04 (A)
18	G4E04 (B)		

3 1 G1A06

Which of the following frequencies is within the General class portion of the 75-meter phone band?

- A. 1875 kHz
- B. 3750 kHz
- C. 3900 kHz
- D. 4005 kHz

3 2 G1B11

Who or what determines "good engineering and good amateur practice," as applied to the operation of an amateur station in all respects not covered by the Part 97 rules?

- A. The FCC
- B. The control operator
- C. The IEEE
- D. The ITU

3 3 G1C03

What is the maximum bandwidth permitted by FCC rules for Amateur Radio stations transmitting on USB frequencies in the 60-meter band?

- A. 2.8 kHz
- B. 5.6 kHz
- C. 1.8 kHz
- D. 3 kHz

3 4 G1D07

Volunteer Examiners are accredited by what organization?

- A. The Federal Communications Commission
- B. The Universal Licensing System
- C. A Volunteer Examiner Coordinator
- D. The Wireless Telecommunications Bureau

3 5 G1E0

Which of the following conditions require a licensed Amateur Radio operator to take specific steps to avoid harmful interference to other users or facilities?

- A. When operating within one mile of an FCC Monitoring Station
- B. When using a band where the Amateur Service is secondary
- C. When a station is transmitting spread spectrum emissions
- D. All these choices are correct

3 6 G2A09

Why do most amateur stations use lower sideband on the 160-meter, 75-meter, and 40-meter bands?

- A. Lower sideband is more efficient than upper sideband at these frequencies
- B. Lower sideband is the only sideband legal on these frequency bands
- C. Because it is fully compatible with an AM detector
- D. It is good amateur practice

3 7 G2B07

Which of the following complies with good amateur practice when choosing a frequency on which to initiate a call?

- A. Check to see if the channel is assigned to another station
- B. Identify your station by transmitting your call sign at least 3 times
- C. Follow the voluntary band plan for the operating mode you intend to use
- D. All these choices are correct

3 8 G2C03

What does it mean when a CW operator sends "KN" at the end of a transmission?

- A. Listening for novice stations
- B. Operating full break-in
- C. Listening only for a specific station or stations
- D. Closing station now

3 9 G2D05

Which of the following is a good way to indicate on a clear frequency in the HF phone bands that you are looking for a contact with any station?

- A. Sign your call sign once, followed by the words "listening for a call" -- if no answer, change frequency and repeat
- B. Say "QTC" followed by "this is" and your call sign -- if no answer, change frequency and repeat
- C. Repeat "CQ" a few times, followed by "this is," then your call sign a few times, then pause to listen, repeat as necessary
- D. Transmit an unmodulated carrier for approximately 10 seconds, followed by "this is" and your call sign, and pause to listen -- repeat as necessary

3 10 G2E02

How can a PACTOR modem or controller be used to determine if the channel is in use by other PACTOR stations?

- A. Unplug the data connector temporarily and see if the channel-busy indication is turned off
- B. Put the modem or controller in a mode which allows monitoring communications without a connection
- C. Transmit UI packets several times and wait to see if there is a response from another PACTOR station
- D. Send the message, "Is this frequency in use?"

3 11 G3A03

Approximately how long does it take the increased ultraviolet and X-ray radiation from solar flares to affect radio propagation on Earth?

- A. 28 days B. 1 to 2 hours C. 8 minutes D. 20 to 40 hours

3 12 G3B09

What is the approximate maximum distance along the Earth's surface that is normally covered in one hop using the F2 region?

- A. 180 miles B. 1,200 miles C. 2,500 miles D. 12,000 miles

3 13 G3C07

What makes HF scatter signals often sound distorted?

- A. The ionospheric layer involved is unstable
B. Ground waves are absorbing much of the signal
C. The E-region is not present
D. Energy is scattered into the skip zone through several different radio wave paths

3 14 G4A04

What reading on the plate current meter of a vacuum tube RF power amplifier indicates correct adjustment of the plate tuning control?

- A. A pronounced peak B. A pronounced dip
C. No change will be observed D. A slow, rhythmic oscillation

3 15 G4B03

Which of the following is the best instrument to use when checking the keying waveform of a CW transmitter?

- A. An oscilloscope B. A field strength meter
C. A sidetone monitor D. A wavemeter

3 16 G4C08

Which of the following would reduce RF interference caused by common-mode current on an audio cable?

- A. Placing a ferrite choke around the cable
B. Adding series capacitors to the conductors
C. Adding shunt inductors to the conductors
D. Adding an additional insulating jacket to the cable

3 17 G6A12

What is the primary purpose of a screen grid in a vacuum tube?

- A. To reduce grid-to-plate capacitance
B. To increase efficiency

- C. To increase the control grid resistance
- D. To decrease plate resistance

3 18 G4D01

What is the purpose of a speech processor as used in a modern transceiver?

- A. Increase the intelligibility of transmitted phone signals during poor conditions
- B. Increase transmitter bass response for more natural-sounding SSB signals
- C. Prevent distortion of voice signals
- D. Decrease high-frequency voice output to prevent out-of-band operation

3 19 G4E02

What is the purpose of a corona ball on an HF mobile antenna?

- A. To narrow the operating bandwidth of the antenna
- B. To increase the "Q" of the antenna
- C. To reduce the chance of damage if the antenna should strike an object
- D. To reduce RF voltage discharge from the tip of the antenna while transmitting

3 20 G5A03

Which of the following causes opposition to the flow of alternating current in an inductor?

- A. Conductance
- B. Reluctance
- C. Admittance
- D. Reactance

3 21 G5B06

What is the output PEP from a transmitter if an oscilloscope measures 200 volts peak-to-peak across a 50 ohm dummy load connected to the transmitter output?

- A. 1.4 watts
- B. 100 watts
- C. 353.5 watts
- D. 400 watts

3 22 G5C04

What is the total resistance of three 100 ohm resistors in parallel?

- A. 0.30 ohms
- B. 0.33 ohms
- C. 33.3 ohms
- D. 300 ohms

3 23 G6B05

What is meant when memory is characterized as non-volatile?

- A. It is resistant to radiation damage
- B. It is resistant to high temperatures
- C. The stored information is maintained even if power is removed
- D. The stored information cannot be changed once written

3 24 G7A05

What portion of the AC cycle is converted to DC by a half-wave rectifier?

- A. 90 degrees
- B. 180 degrees
- C. 270 degrees
- D. 360 degrees

3 25 G7B03

Which of the following describes the function of a two-input AND gate?

- A. Output is high when either or both inputs are low
- B. Output is high only when both inputs are high
- C. Output is low when either or both inputs are high
- D. Output is low only when both inputs are high

3 26 G7C02

Which circuit is used to combine signals from the carrier oscillator and speech amplifier then send the result to the filter in some single sideband phone transmitters?

- A. Discriminator
- B. Detector
- C. IF amplifier
- D. Balanced modulator

3 27 G8A11

What is the modulation envelope of an AM signal?

- A. The waveform created by connecting the peak values of the modulated signal
- B. The carrier frequency that contains the signal
- C. Spurious signals that envelop nearby frequencies
- D. The bandwidth of the modulated signal

3 28 G8B04

What is the stage in a VHF FM transmitter that generates a harmonic of a lower frequency signal to reach the desired operating frequency?

- A. Mixer
- B. Reactance modulator
- C. Pre-emphasis network
- D. Multiplier

3 29 G8C04

Which of the following describes Baudot code?

- A. A 7-bit code with start, stop, and parity bits
- B. A code using error detection and correction
- C. A 5-bit code with additional start and stop bits
- D. A code using SELCAL and LISTEN

3 30 G9A09

What standing wave ratio will result when connecting a 50 ohm feed line to a non-reactive load having 200 ohm impedance?

- A. 4:1
- B. 1:4
- C. 2:1
- D. 1:2

3 31 G9B07

How does the feed-point impedance of a 1/2 wave dipole antenna change as the antenna is lowered below 1/4 wave above ground?

- A. It steadily increases

- B. It steadily decreases
- C. It peaks at about 1/8 wavelength above ground
- D. It is unaffected by the height above ground

3 32 G9C06

What configuration of the loops of a two-element quad antenna must be used for the antenna to operate as a beam antenna, assuming one of the elements is used as a reflector?

- A. The driven element must be fed with a balun transformer
- B. There must be an open circuit in the driven element at the point opposite the feed point
- C. The reflector element must be approximately 5 percent shorter than the driven element
- D. The reflector element must be approximately 5 percent longer than the driven element

3 33 G9D02

What is the feed-point impedance of an end-fed half-wave antenna?

- A. Very low
- B. Approximately 50 ohms
- C. Approximately 300 ohms
- D. Very high

3 34 G0A02

Which of the following properties is important in estimating whether an RF signal exceeds the maximum permissible exposure (MPE)?

- A. Its duty cycle
- B. Its frequency
- C. Its power density
- D. All these choices are correct

3 35 G0B10

Which of the following is a danger from lead-tin solder?

- A. Lead can contaminate food if hands are not washed carefully after handling the solder
- B. High voltages can cause lead-tin solder to disintegrate suddenly
- C. Tin in the solder can "cold flow," causing shorts in the circuit
- D. RF energy can convert the lead into a poisonous gas

General 2019-2023 Quiz 3 Key

1	G1A06 (C)	19	G4E02 (D)
2	G1B11 (A)	20	G5A03 (D)
3	G1C03 (A)	21	G5B06 (B)
4	G1D07 (C)	22	G5C04 (C)
5	G1E04 (D)	23	G6B05 (C)
6	G2A09 (D)	24	G7A05 (B)
7	G2B07 (C)	25	G7B03 (B)
8	G2C03 (C)	26	G7C02 (D)
9	G2D05 (C)	27	G8A11 (A)
10	G2E02 (B)	28	G8B04 (D)
11	G3A03 (C)	29	G8C04 (C)
12	G3B09 (C)	30	G9A09 (A)
13	G3C07 (D)	31	G9B07 (B)
14	G4A04 (B)	32	G9C06 (D)
15	G4B03 (A)	33	G9D02 (D)
16	G4C08 (A)	34	G0A02 (D)
17	G6A12 (A)	35	G0B10 (A)
18	G4D01 (A)		

4 1 G1A08

Which of the following frequencies is within the General class portion of the 80-meter band?

- A. 1855 kHz B. 2560 kHz C. 3560 kHz D. 3650 kHz

4 2 G1B04

Which of the following transmissions is permitted?

- A. Unidentified transmissions for test purposes only
B. Retransmission of other amateur station signals by any amateur station
C. Occasional retransmission of weather and propagation forecast information from U.S. government stations
D. Coded messages of any kind, if not intended to facilitate a criminal act

4 3 G1C08

What is the maximum symbol rate permitted for RTTY or data emission transmitted at frequencies below 28 MHz?

- A. 56 kilobaud B. 19.6 kilobaud C. 1200 baud D. 300 baud

4 4 G1D09

How long is a Certificate of Successful Completion of Examination (CSCE) valid for exam element credit?

- A. 30 days B. 180 days C. 365 days D. For as long as your current license is valid

4 5 G1E0

The frequency allocations of which ITU region apply to radio amateurs operating in North and South America?

- A. Region 4 B. Region 3 C. Region 2 D. Region 1

4 6 G1E1

On what bands may automatically controlled stations transmitting RTTY or data emissions communicate with other automatically controlled digital station?

- A. On any band segment where digital operation is permitted
B. Anywhere in the non-phone segments of the 10-meter or shorter wavelength bands
C. Only in the non-phone Extra Class segments of the bands
D. Anywhere in the 6-meter or shorter wavelength bands, and in limited segments of some of the HF bands

4 7 G2A05

Which mode of voice communication is most commonly used on the HF amateur bands?

- A. Frequency modulation B. Double sideband
C. Single sideband D. Phase modulation

4 8 G2B0

Which of the following is true concerning access to frequencies?

- A. Nets always have priority
- B. QSOs in progress always have priority
- C. Except during emergencies, no amateur station has priority access to any frequency
- D. Contest operations must always yield to non-contest use of frequencies

4 9 G2C08

What prosign is sent to indicate the end of a formal message when using CW?

- A. SK
- B. BK
- C. AR
- D. KN

4 10 G2D04

Which of the following describes an azimuthal projection map?

- A. A map that shows accurate land masses
- B. A map that shows true bearings and distances from a particular location
- C. A map that shows the angle at which an amateur satellite crosses the equator
- D. A map that shows the number of degrees longitude that an amateur satellite appears to move westward at the equator with each orbit

4 11 G3A01

What is the significance of the sunspot number with regard to HF propagation?

- A. Higher sunspot numbers generally indicate a greater probability of good propagation at higher frequencies
- B. Lower sunspot numbers generally indicate greater probability of sporadic E propagation
- C. A zero sunspot number indicates that radio propagation is not possible on any band
- D. A zero sunspot number indicates undisturbed conditions

4 12 G3B06

What usually happens to radio waves with frequencies below the LUF?

- A. They are bent back to Earth
- B. They pass through the ionosphere
- C. They are completely absorbed by the ionosphere
- D. They are bent and trapped in the ionosphere to circle Earth

4 13 G3C02

Where on Earth do ionospheric layers reach their maximum height?

- A. Where the sun is overhead
- B. Where the sun is on the opposite side of Earth
- C. Where the sun is rising

D. Where the sun has just set

4 14 G4A05

What is a reason to use Automatic Level Control (ALC) with an RF power amplifier?

- A. To balance the transmitter audio frequency response
- B. To reduce harmonic radiation
- C. To reduce distortion due to excessive drive
- D. To increase overall efficiency

4 15 G4B02

Which of the following is an advantage of an oscilloscope versus a digital voltmeter?

- A. An oscilloscope uses less power
- B. Complex impedances can be easily measured
- C. Input impedance is much lower
- D. Complex waveforms can be measured

4 16 G4C09

How can a ground loop be avoided?

- A. Connect all ground conductors in series
- B. Connect the AC neutral conductor to the ground wire
- C. Avoid using lock washers and star washers when making ground connections
- D. Connect all ground conductors to a single point

4 17 G4D03

Which of the following can be the result of an incorrectly adjusted speech processor?

- A. Distorted speech
- B. Splatter
- C. Excessive background pickup
- D. All these choices are correct

4 18 G4E09

What is the approximate open-circuit voltage from a fully illuminated silicon photovoltaic cell?

- A. 0.02 VDC
- B. 0.5 VDC
- C. 0.2 VDC
- D. 1.38 VDC

4 19 G5A09

What unit is used to measure reactance?

- A. Farad
- B. Ohm
- C. Ampere
- D. Siemens

4 20 G5B14

What is the output PEP from a transmitter if an oscilloscope measures 500 volts peak-to-peak across a 50 ohm resistive load connected to the transmitter output?

- A. 8.75 watts
- B. 625 watts
- C. 2500 watts
- D. 5000 watts

4 21 G5C10

What is the inductance of three 10 millihenry inductors connected in parallel?

- A. 0.30 henries B. 3.3 henries C. 3.3 millihenries D. 30 millihenries

4 22 G6A02

What is an advantage of the low internal resistance of nickel-cadmium batteries?

- A. Long life B. High discharge current C. High voltage D. Rapid recharge

4 23 G2E13

Which communication system sometimes uses the internet to transfer messages?

- A. Winlink B. RTTY C. ARES D. SKYWARN

4 24 G6B02

What is meant by the term MMIC?

- A. Multi-Megabyte Integrated Circuit
B. Monolithic Microwave Integrated Circuit
C. Military Manufactured Integrated Circuit
D. Mode Modulated Integrated Circuit

4 25 G7A02

Which of the following components are used in a power supply filter network?

- A. Diodes B. Transformers and transducers
C. Quartz crystals D. Capacitors and inductors

4 26 G7B10

Which of the following describes a linear amplifier?

- A. Any RF power amplifier used in conjunction with an amateur transceiver
B. An amplifier in which the output preserves the input waveform
C. A Class C high efficiency amplifier
D. An amplifier used as a frequency multiplier

4 27 G7C11

What is meant by the term "software-defined radio" (SDR)?

- A. A radio in which most major signal processing functions are performed by software
B. A radio that provides computer interface for automatic logging of band and frequency
C. A radio that uses crystal filters designed using software
D. A computer model that can simulate performance of a radio to aid in the design process

4 28 G8A04

What emission is produced by a reactance modulator connected to a transmitter RF amplifier stage?

- A. Multiplex modulation
- B. Phase modulation
- C. Amplitude modulation
- D. Pulse modulation

4 29 G8C02

Which digital mode is used as a low-power beacon for assessing HF propagation?

- A. WSPR
- B. Olivia
- C. PSK31
- D. SSB-SC

4 30 G9A10

What standing wave ratio will result when connecting a 50 ohm feed line to a non-reactive load having 10 ohm impedance?

- A. 2:1
- B. 50:1
- C. 1:5
- D. 5:1

4 31 G9B09

Which of the following is an advantage of a horizontally polarized as compared to a vertically polarized HF antenna?

- A. Lower ground reflection losses
- B. Lower feed-point impedance
- C. Shorter radials
- D. Lower radiation resistance

4 32 G9C01

Which of the following would increase the bandwidth of a Yagi antenna?

- A. Larger-diameter elements
- B. Closer element spacing
- C. Loading coils in series with the element
- D. Tapered-diameter elements

4 33 G9D09

What is the primary use of a Beverage antenna?

- A. Directional receiving for low HF bands
- B. Directional transmitting for low HF bands
- C. Portable direction finding at higher HF frequencies
- D. Portable direction finding at lower HF frequencies

4 34 G0A10

What is one thing that can be done if evaluation shows that a neighbor might receive more than the allowable limit of RF exposure from the main lobe of a directional antenna?

- A. Change to a non-polarized antenna with higher gain
- B. Post a warning sign that is clearly visible to the neighbor
- C. Use an antenna with a higher front-to-back ratio
- D. Take precautions to ensure that the antenna cannot be pointed in their direction

4 35 G0B05

Which of the following conditions will cause a Ground Fault Circuit Interrupter (GFCI) to disconnect the 120 or 240 Volt AC line power to a device?

- A. Current flowing from one or more of the voltage-carrying wires to the neutral wire
- B. Current flowing from one or more of the voltage-carrying wires directly to ground
- C. Overvoltage on the voltage-carrying wires
- D. All these choices are correct

General 2019-2023 Quiz 4 Key

1	G1A08 (C)	19	G5A09 (B)
2	G1B04 (C)	20	G5B14 (B)
3	G1C08 (D)	21	G5C10 (C)
4	G1D09 (C)	22	G6A02 (B)
5	G1E06 (C)	23	G2E13 (A)
6	G1E11 (D)	24	G6B02 (B)
7	G2A05 (C)	25	G7A02 (D)
8	G2B01 (C)	26	G7B10 (B)
9	G2C08 (C)	27	G7C11 (A)
10	G2D04 (B)	28	G8A04 (B)
11	G3A01 (A)	29	G8C02 (A)
12	G3B06 (C)	30	G9A10 (D)
13	G3C02 (A)	31	G9B09 (A)
14	G4A05 (C)	32	G9C01 (A)
15	G4B02 (D)	33	G9D09 (A)
16	G4C09 (D)	34	G0A10 (D)
17	G4D03 (D)	35	G0B05 (B)
18	G4E09 (B)		

5 1 G1A02

On which of the following bands is phone operation prohibited?

- A. 160 meters
- B. 30 meters
- C. 17 meters
- D. 12 meters

5 2 G1B02

With which of the following conditions must beacon stations comply?

- A. A beacon station may not use automatic control
- B. The frequency must be coordinated with the National Beacon Organization
- C. The frequency must be posted on the internet or published in a national periodical
- D. There must be no more than one beacon signal transmitting in the same band from the same station location

5 3 G1C09

What is the maximum symbol rate permitted for RTTY or data emission transmitted on the 1.25-meter and 70-centimeter bands?

- A. 56 kilobaud
- B. 19.6 kilobaud
- C. 1200 baud
- D. 300 baud

5 4 G1D04

Which of the following is a requirement for administering a Technician class license examination?

- A. At least three General class or higher VEs must observe the examination
- B. At least two General class or higher VEs must be present
- C. At least two General class or higher VEs must be present, but only one need be Amateur Extra class
- D. At least three VEs of Technician class or higher must observe the examination

5 5 G1E02

When may a 10-meter repeater retransmit the 2-meter signal from a station that has a Technician class control operator?

- A. Under no circumstances
- B. Only if the station on 10-meters is operating under a Special Temporary Authorization allowing such retransmission
- C. Only during an FCC-declared general state of communications emergency
- D. Only if the 10-meter repeater control operator holds at least a General class license

5 6 G2A03

Which of the following is most commonly used for SSB voice communications in the VHF and UHF bands?

- A. Upper sideband
- B. Lower sideband
- C. Vestigial sideband
- D. Double sideband

5 7 G2B02

What is the first thing you should do if you are communicating with another amateur station and hear a station in distress break in?

- A. Continue your communication because you were on the frequency first
- B. Acknowledge the station in distress and determine what assistance may be needed
- C. Change to a different frequency
- D. Immediately cease all transmissions

5 8 G2C02

What should you do if a CW station sends "QRS?"

- A. Send slower
- B. Change frequency
- C. Increase your power
- D. Repeat everything twice

5 9 G2D01

What is the Volunteer Monitoring Program?

- A. Amateur volunteers who are formally enlisted to monitor the airwaves for rules violations
- B. Amateur volunteers who conduct amateur licensing examinations
- C. Amateur volunteers who conduct frequency coordination for amateur VHF repeaters
- D. Amateur volunteers who use their station equipment to help civil defense organizations in times of emergency

5 10 G2E06

What is the most common frequency shift for RTTY emissions in the amateur HF bands?

- A. 85 Hz
- B. 170 Hz
- C. 425 Hz
- D. 850 Hz

5 11 G4C10

What could be a symptom of a ground loop somewhere in your station?

- A. You receive reports of "hum" on your station's transmitted signal
- B. The SWR reading for one or more antennas is suddenly very high
- C. An item of station equipment starts to draw excessive amounts of current
- D. You receive reports of harmonic interference from your station

5 12 G3A06

What is a geomagnetic storm?

- A. A sudden drop in the solar flux index
- B. A thunderstorm that affects radio propagation
- C. Ripples in the ionosphere
- D. A temporary disturbance in Earth's magnetosphere

5 13 G3B10

What is the approximate maximum distance along the Earth's surface that is normally covered in one hop using the E region?

- A. 180 miles B. 1,200 miles C. 2,500 miles D. 12,000 miles

5 14 G3C01

Which ionospheric layer is closest to the surface of Earth?

- A. The D layer B. The E layer C. The F1 layer D. The F2 layer

5 15 G4A01

What is the purpose of the "notch filter" found on many HF transceivers?

- A. To restrict the transmitter voice bandwidth
B. To reduce interference from carriers in the receiver passband
C. To eliminate receiver interference from impulse noise sources
D. To enhance the reception of a specific frequency on a crowded band

5 16 G4B15

What type of transmitter performance does a two-tone test analyze?

- A. Linearity
B. Percentage of suppression of carrier and undesired sideband for SSB
C. Percentage of frequency modulation
D. Percentage of carrier phase shift

5 17 G4D08

What frequency range is occupied by a 3 kHz LSB signal when the displayed carrier frequency is set to 7.178 MHz?

- A. 7.178 to 7.181 MHz B. 7.178 to 7.184 MHz
C. 7.175 to 7.178 MHz D. 7.1765 to 7.1795 MHz

5 18 G4E05

Which of the following most limits an HF mobile installation?

- A. "Picket fencing"
B. The wire gauge of the DC power line to the transceiver
C. Efficiency of the electrically short antenna
D. FCC rules limiting mobile output power on the 75-meter band

5 19 G5A02

What is reactance?

- A. Opposition to the flow of direct current caused by resistance
B. Opposition to the flow of alternating current caused by capacitance or inductance
C. A property of ideal resistors in AC circuits

D. A large spark produced at switch contacts when an inductor is de-energized

5 20 G5B04

How many watts of electrical power are used by a 12 VDC light bulb that draws 0.2 amperes?

A. 2.4 watts B. 24 watts C. 6 watts D. 60 watts

5 21 G5C09

What is the capacitance of three 100 microfarad capacitors connected in series?

A. 0.30 microfarads B. 0.33 microfarads C. 33.3 microfarads D. 300 microfarads

5 22 G6A09

Which of the following describes the construction of a MOSFET?

- A. The gate is formed by a back-biased junction
- B. The gate is separated from the channel with a thin insulating layer
- C. The source is separated from the drain by a thin insulating layer
- D. The source is formed by depositing metal on silicon

5 23 G6B11

What is a type SMA connector?

- A. A large bayonet connector usable at power levels more than 1 KW
- B. A small threaded connector suitable for signals up to several GHz
- C. A connector designed for serial multiple access signals
- D. A type of push-on connector intended for high-voltage applications

5 24 G7A01

What useful feature does a power supply bleeder resistor provide?

- A. It acts as a fuse for excess voltage
- B. It ensures that the filter capacitors are discharged when power is removed
- C. It removes shock hazards from the induction coils
- D. It eliminates ground loop current

5 25 G7B02

Which of these classes of amplifiers has the highest efficiency?

A. Class A B. Class B C. Class AB D. Class C

5 26 G7C10

What is an advantage of using I and Q signals in software-defined radios (SDRs)?

- A. The need for high resolution analog-to-digital converters is eliminated
- B. All types of modulation can be created with appropriate processing
- C. Minimum detectible signal level is reduced

D. Converting the signal from digital to analog creates mixing products

5 27 G8A09

What type of modulation is used by the FT8 digital mode?

- A. 8-tone frequency shift keying
- B. Vestigial sideband
- C. Amplitude compressed AM
- D. Direct sequence spread spectrum

5 28 G8B06

What is the total bandwidth of an FM phone transmission having 5 kHz deviation and 3 kHz modulating frequency?

- A. 3 kHz
- B. 5 kHz
- C. 8 kHz
- D. 16 kHz

5 29 G9C09

How does the gain of two three-element, horizontally polarized Yagi antennas spaced vertically 1/2 wavelength apart typically compare to the gain of a single three-element Yagi?

- A. Approximately 1.5 dB higher
- B. Approximately 3 dB higher
- C. Approximately 6 dB higher
- D. Approximately 9 dB higher

5 30 G8C06

What action results from a failure to exchange information due to excessive transmission attempts when using PACTOR or WINMOR?

- A. The checksum overflows
- B. The connection is dropped
- C. Packets will be routed incorrectly
- D. Encoding reverts to the default character set

5 31 G9A06

In what units is RF feed line loss usually expressed?

- A. Ohms per 1000 feet
- B. Decibels per 1000 feet
- C. Ohms per 100 feet
- D. Decibels per 100 feet

5 32 G9B12

What is the approximate length for a 1/4 wave vertical antenna cut for 28.5 MHz?

- A. 8 feet
- B. 11 feet
- C. 16 feet
- D. 21 feet

5 33 G9D10

In which direction or directions does an electrically small loop (less than 1/3 wavelength in circumference) have nulls in its radiation pattern?

- A. In the plane of the loop
- B. Broadside to the loop

- C. Broadside and in the plane of the loop
- D. Electrically small loops are omnidirectional

5 34 G0A05

What must you do if an evaluation of your station shows RF energy radiated from your station exceeds permissible limits?

- A. Take action to prevent human exposure to the excessive RF fields
- B. File an Environmental Impact Statement (EIS-97) with the FCC
- C. Secure written permission from your neighbors to operate above the controlled MPE limits
- D. All these choices are correct

5 35 G0B06

Which of the following is covered by the National Electrical Code?

- A. Acceptable bandwidth limits
- B. Acceptable modulation limits
- C. Electrical safety inside the ham shack
- D. RF exposure limits of the human body

General 2019-2023 Quiz 5 Key

1	G1A02 (B)	19	G5A02 (B)
2	G1B02 (D)	20	G5B04 (A)
3	G1C09 (A)	21	G5C09 (C)
4	G1D04 (A)	22	G6A09 (B)
5	G1E02 (D)	23	G6B11 (B)
6	G2A03 (A)	24	G7A01 (B)
7	G2B02 (B)	25	G7B02 (D)
8	G2C02 (A)	26	G7C10 (B)
9	G2D01 (A)	27	G8A09 (A)
10	G2E06 (B)	28	G8B06 (D)
11	G4C10 (A)	29	G9C09 (B)
12	G3A06 (D)	30	G8C06 (B)
13	G3B10 (B)	31	G9A06 (D)
14	G3C01 (A)	32	G9B12 (A)
15	G4A01 (B)	33	G9D10 (B)
16	G4B15 (A)	34	G0A05 (A)
17	G4D08 (C)	35	G0B06 (C)
18	G4E05 (C)		

6 1 G1A04

Which of the following amateur bands is restricted to communication only on specific channels, rather than frequency ranges?

- A. 11 meters B. 12 meters C. 30 meters D. 60 meters

6 2 G1B09

On what HF frequencies are automatically controlled beacons permitted?

- A. On any frequency if power is less than 1 watt
B. On any frequency if transmissions are in Morse code
C. 21.08 MHz to 21.09 MHz
D. 28.20 MHz to 28.30 MHz

6 3 G1C01

What is the maximum transmitting power an amateur station may use on 10.140 MHz?

- A. 200 watts PEP output B. 1000 watts PEP output
C. 1500 watts PEP output D. 2000 watts PEP output

6 4 G1E07

In what part of the 13-centimeter band may an amateur station communicate with non-licensed Wi-Fi stations?

- A. Anywhere in the band B. Channels 1 through 4
C. Channels 42 through 45 D. No part

6 5 G2A06

Which of the following is an advantage when using single sideband, as compared to other analog voice modes on the HF amateur bands?

- A. Very high fidelity voice modulation
B. Less subject to interference from atmospheric static crashes
C. Ease of tuning on receive and immunity to impulse noise
D. Less bandwidth used and greater power efficiency

6 6 G2B09

Who may be the control operator of an amateur station transmitting in RACES to assist relief operations during a disaster?

- A. Only a person holding an FCC-issued amateur operator license
B. Only a RACES net control operator
C. A person holding an FCC-issued amateur operator license or an appropriate government official
D. Any control operator when normal communication systems are operational

6 7 G2C11

What does the Q signal "QRV" mean?

- A. You are sending too fast
- B. There is interference on the frequency
- C. I am quitting for the day
- D. I am ready to receive messages

6 8 G2D10

What is QRP operation?

- A. Remote piloted model control
- B. Low-power transmit operation
- C. Transmission using Quick Response Protocol
- D. Traffic relay procedure net operation

6 9 G2E01

Which mode is normally used when sending RTTY signals via AFSK with an SSB transmitter?

- A. USB
- B. DSB
- C. CW
- D. LSB

6 10 G3A09

What benefit can high geomagnetic activity have on radio communications?

- A. Auroras that can reflect VHF signals
- B. Higher signal strength for HF signals passing through the polar regions
- C. Improved HF long path propagation
- D. Reduced long delayed echoes

6 11 G3B08

What does MUF stand for?

- A. The Minimum Usable Frequency for communications between two points
- B. The Maximum Usable Frequency for communications between two points
- C. The Minimum Usable Frequency during a 24-hour period
- D. The Maximum Usable Frequency during a 24-hour period

6 12 G3C06

What is a characteristic of HF scatter?

- A. Phone signals have high intelligibility
- B. Signals have a fluttering sound
- C. There are very large, sudden swings in signal strength
- D. Scatter propagation occurs only at night

6 13 G4A14

What is likely to happen if a transceiver's ALC system is not set properly when transmitting AFSK signals with the radio using single sideband mode?

- A. ALC will invert the modulation of the AFSK mode
- B. Improper action of ALC distorts the signal and can cause spurious emissions
- C. When using digital modes, too much ALC activity can cause the transmitter to overheat
- D. All these choices are correct

6 14 G4B07

What signals are used to conduct a two-tone test?

- A. Two audio signals of the same frequency shifted 90 degrees
- B. Two non-harmonically related audio signals
- C. Two swept frequency tones
- D. Two audio frequency range square wave signals of equal amplitude

6 15 G4C03

What sound is heard from an audio device or telephone if there is interference from a nearby single sideband phone transmitter?

- A. A steady hum whenever the transmitter is on the air
- B. On-and-off humming or clicking
- C. Distorted speech
- D. Clearly audible speech

6 16 G1D11

What is required to obtain a new General Class license after a previously-held license has expired and the two-year grace period has passed?

- A. They must have a letter from the FCC showing they once held an amateur or commercial license
- B. There are no requirements other than being able to show a copy of the expired license
- C. The applicant must be able to produce a copy of a page from a call book published in the U.S. showing his or her name and address
- D. The applicant must pass the current Element 2 exam

6 17 G4D02

Which of the following describes how a speech processor affects a transmitted single sideband phone signal?

- A. It increases peak power
- B. It increases average power
- C. It reduces harmonic distortion
- D. It reduces intermodulation distortion

6 18 G5A06

How does a capacitor react to AC?

- A. As the frequency of the applied AC increases, the reactance decreases
- B. As the frequency of the applied AC increases, the reactance increases
- C. As the amplitude of the applied AC increases, the reactance increases
- D. As the amplitude of the applied AC increases, the reactance decreases

6 19 G5B10

What percentage of power loss would result from a transmission line loss of 1 dB?

- A. 10.9 percent
- B. 12.2 percent
- C. 20.6 percent
- D. 25.9 percent

6 20 G5C06

What is the RMS voltage across a 500-turn secondary winding in a transformer if the 2250-turn primary is connected to 120 VAC?

- A. 2370 volts
- B. 540 volts
- C. 26.7 volts
- D. 5.9 volts

6 21 G6A01

What is the minimum allowable discharge voltage for maximum life of a standard 12 volt lead-acid battery?

- A. 6 volts
- B. 8.5 volts
- C. 10.5 volts
- D. 12 volts

6 22 G6B04

What is meant by the term ROM?

- A. Resistor Operated Memory
- B. Read Only Memory
- C. Random Operational Memory
- D. Resistant to Overload Memory

6 23 G7A03

Which type of rectifier circuit uses two diodes and a center-tapped transformer?

- A. Full-wave
- B. Full-wave bridge
- C. Half-wave
- D. Synchronous

6 24 G7B04

Which of the following describes the function of a two input NOR gate?

- A. Output is high when either or both inputs are low
- B. Output is high only when both inputs are high
- C. Output is low when either or both inputs are high
- D. Output is low only when both inputs are high

6 25 G7C06

What should be the impedance of a low-pass filter as compared to the impedance of the transmission line into which it is inserted?

- A. Substantially higher
- B. About the same
- C. Substantially lower
- D. Twice the transmission line impedance

6 26 G8A05

What type of modulation varies the instantaneous power level of the RF signal?

- A. Frequency shift keying
- B. Phase modulation
- C. Frequency modulation
- D. Amplitude modulation

6 27 G8B07

What is the frequency deviation for a 12.21 MHz reactance modulated oscillator in a 5 kHz deviation, 146.52 MHz FM phone transmitter?

- A. 101.75 Hz
- B. 416.7 Hz
- C. 5 kHz
- D. 60 kHz

6 28 G8C12

Which type of code is used for sending characters in a PSK31 signal?

- A. Varicode
- B. Viterbi
- C. Volumetric
- D. Binary

6 29 G9A04

What might cause reflected power at the point where a feed line connects to an antenna?

- A. Operating an antenna at its resonant frequency
- B. Using more transmitter power than the antenna can handle
- C. A difference between feed-line impedance and antenna feed-point impedance
- D. Feeding the antenna with unbalanced feed line

6 30 G9B02

Which of the following is a common way to adjust the feed-point impedance of a quarter wave ground-plane vertical antenna to be approximately 50 ohms?

- A. Slope the radials upward
- B. Slope the radials downward
- C. Lengthen the radials
- D. Shorten the radials

6 31 G9C07

What does "front-to-back ratio" mean in reference to a Yagi antenna?

- A. The number of directors versus the number of reflectors
- B. The relative position of the driven element with respect to the reflectors and directors

- C. The power radiated in the major radiation lobe compared to that in the opposite direction
- D. The ratio of forward gain to dipole gain

6 32 G8B10

What is the relationship between transmitted symbol rate and bandwidth?

- A. Symbol rate and bandwidth are not related
- B. Higher symbol rates require wider bandwidth
- C. Lower symbol rates require wider bandwidth
- D. Bandwidth is always half the symbol rate

6 33 G9D06

Which of the following is an advantage of a log periodic antenna?

- A. Wide bandwidth
- B. Higher gain per element than a Yagi antenna
- C. Harmonic suppression
- D. Polarization diversity

6 34 G0A08

Which of the following steps must an amateur operator take to ensure compliance with RF safety regulations when transmitter power exceeds levels specified in FCC Part 97.13?

- A. Post a copy of FCC Part 97.13 in the station
- B. Post a copy of OET Bulletin 65 in the station
- C. Perform a routine RF exposure evaluation
- D. Contact the FCC for a visit to conduct a station evaluation

6 35 G0B01

Which wire or wires in a four-conductor connection should be attached to fuses or circuit breakers in a device operated from a 240 VAC single phase source?

- A. Only the two wires carrying voltage
- B. Only the neutral wire
- C. Only the ground wire
- D. All wires

General 2019-2023 Quiz 6 Key

1	G1A04 (D)	19	G5B10 (C)
2	G1B09 (D)	20	G5C06 (C)
3	G1C01 (A)	21	G6A01 (C)
4	G1E07 (D)	22	G6B04 (B)
5	G2A06 (D)	23	G7A03 (A)
6	G2B09 (A)	24	G7B04 (C)
7	G2C11 (D)	25	G7C06 (B)
8	G2D10 (B)	26	G8A05 (D)
9	G2E01 (D)	27	G8B07 (B)
10	G3A09 (A)	28	G8C12 (A)
11	G3B08 (B)	29	G9A04 (C)
12	G3C06 (B)	30	G9B02 (B)
13	G4A14 (B)	31	G9C07 (C)
14	G4B07 (B)	32	G8B10 (B)
15	G4C03 (C)	33	G9D06 (A)
16	G1D11 (D)	34	G0A08 (C)
17	G4D02 (B)	35	G0B01 (A)
18	G5A06 (A)		

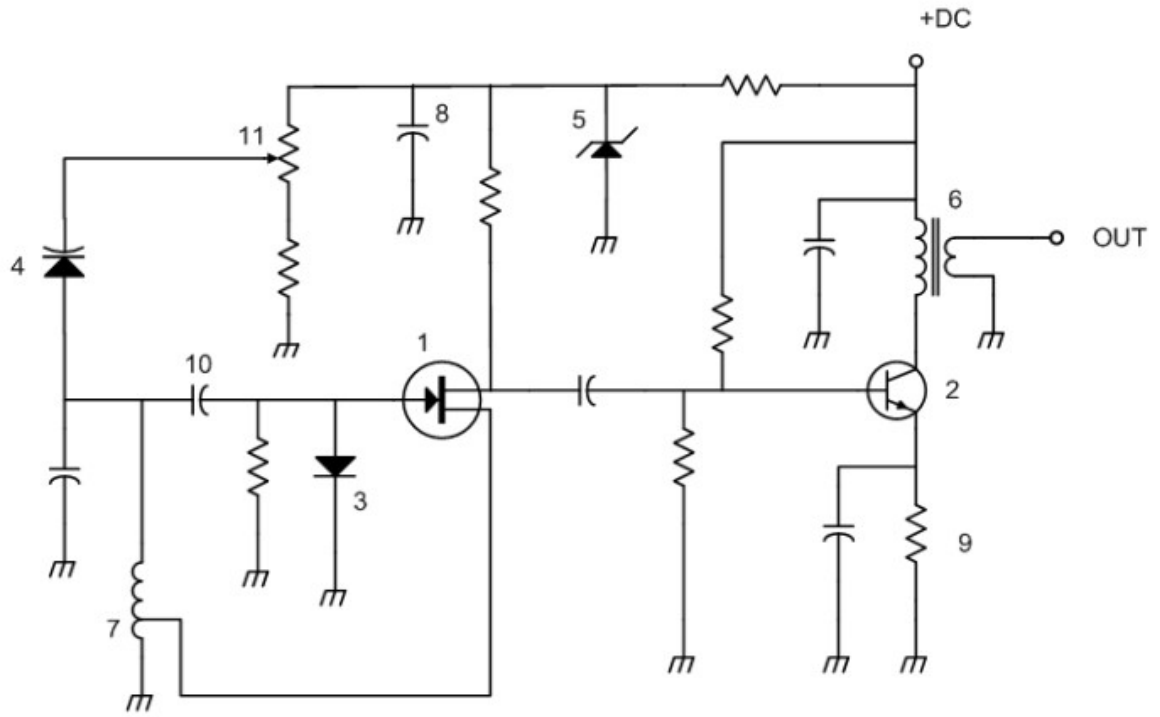


Figure G7-1