

01-6-(d)

An Amateur Station is quoted in the regulations as a station:

- a for training new radio operators
- b using amateur equipment for commercial purposes
- c for public emergency purposes
- d in the Amateur Service

02-5-(a)

Regardless of the mode of transmission used, all amateur stations must be equipped with:

- a a reliable means for determining the operating radio frequency
- b an overmodulation indicator
- c a dummy antenna
- d a power output meter

03-7-(a)

Anyone may be permitted by the qualified operator of an amateur radio station to:

- a pass brief comments of a personal nature, provided no fees or other considerations are requested or accepted
- b operate the station when the operator is called away
- c send business traffic to any other station
- d broadcast a music programme

04-5-(a)

This callsign could be that allocated to a New Zealand amateur radio operator:

- a ZL2KMJ
- b ZK-CFK
- c ZM4432
- d ZLGA

05-5-(b)

A General Amateur Operator Certificate of Competency:

- a expires after 12 months
- b contains the unique callsign(s) to be used by that operator
- c is transferable to any member of the family
- d gives licence for the transmission of radio waves

06-1-(a)

The Morse code signal "SOS" indicates that a station is:

- a in grave and imminent danger and requires immediate assistance
- b reporting a shipping hazard
- c about to send an important message for payment
- d about to go silent

07-6-(d)

The abbreviation "VHF" refers to radio spectrum between:

- a 30 kHz and 300 kHz
- b 300 kHz and 3 MHz
- c 3 MHz and 30 MHz
- d 30 MHz and 300 MHz

08-0-(d)

Amateur stations are often described as being "frequency agile". This means:

- a operation is restricted to frequency modulation only
- b operators can operate anywhere on a shared band
- c a bandswitch is required on all transmitters
- d operators can change frequency on a shared band to avoid interfering

09-6-(d)

The New Zealand amateur radio bandplans are:

- a obligatory for all amateur radio operators
- b only for testing and development purposes
- c indicators of where distant stations can be worked
- d recommended, all amateur radio operators should observe them

10-8-(d)

The term describing opposition to electron flow in a circuit is:

- a current
- b voltage
- c power
- d resistance

11-7-(a)

Four good electrical insulators are:

- a glass, air, plastic, porcelain
- b plastic, rubber, wood, carbon
- c glass, wood, copper, porcelain
- d paper, glass, air, aluminium

12-5-(a)

The voltage "two volts" is also:

- a 2,000 mV
- b 2,000 kV
- c 2,000 uV
- d 2,000 MV

13-4-(c)

The voltage to cause a current of 4.4 ampere to flow in a 50 ohm resistance is:

- a 2220 volt
- b 22.0 volt
- c 220 volt
- d 0.222 volt

14-3-(b)

A resistor with 10 volt applied across it and passing a current of 1 mA has a value of:

- a 10 ohm
- b 10 kilohm
- c 100 ohm
- d 1 kilohm

15-8-(c)

Two resistors are connected in parallel. One is 75 ohm and the other is 50 ohm. The total resistance of this parallel circuit is:

- a 10 ohm
- b 70 ohm
- c 30 ohm
- d 40 ohm

16-0-(d)

A 6 ohm resistor is connected in parallel with a 30 ohm resistor. The total resistance of the combination is:

- a 8 ohm
- b 24 ohm
- c 35 ohm
- d 5 ohm

17-1-(b)

Two resistors are in parallel. Resistor A carries twice the current of resistor B, which means that:

- a B has half the resistance of A
- b A has half the resistance of B
- c the voltage across A is twice that across B
- d the voltage across B is twice that across B

18-3-(b)

When two 1000 ohm 5 watt resistors are connected in parallel, they can dissipate a maximum total power of:

- a 40 watt
- b 10 watt
- c 20 watt
- d 5 watt

19-3-(a)

If two 10 ohm resistors are connected in series with a 10 volt battery, the battery load is:

- a 5 watt
- b 10 watt
- c 20 watt
- d 100 watt

20-8-(a)

The "rms voltage" of a sinewave signal is:

- a 0.707 times the peak voltage
- b half the peak voltage
- c 1.414 times the peak voltage
- d the peak-to-peak voltage

21-3-(c)

Two metal plates separated by air form a 0.001 uF capacitor. Its value may be changed to 0.002 uF by:

- a making the plates smaller in size
- b moving the plates apart
- c bringing the metal plates closer together
- d touching the two plates together

22-1-(c)

Two 20 uH inductances are connected in series. The total inductance is:

- a 10 uH
- b 20 uH
- c 40 uH
- d 80 uH

23-8-(b)

The correct colour coding for the earth wire in a flexible mains lead is:

- a brown
- b yellow and green
- c blue
- d white

24-4-(a)

The three leads from a PNP transistor are named the:

- a collector, emitter, base
- b collector, source, drain
- c gate, source, drain
- d drain, base, source

25-0-(b)

A varactor diode acts like a variable:

- a resistance
- b capacitance
- c voltage regulator
- d inductance

26-2-(c)

This semiconductor device has characteristics most similar to a triode valve:

- a junction diode
- b zener diode
- c field effect transistor
- d bipolar transistor

27-3-(d)

The following meter could be used to measure the power supply current drawn by a small hand-held transistorised receiver:

- a a power meter
- b an RF ammeter
- c an electrostatic voltmeter
- d a DC ammeter

28-0-(b)

Assuming the same impedances, the input to an amplifier is 1 volt rms and the output 10 volt rms. This is an increase of:

- a 3 dB
- b 20 dB
- c 6 dB
- d 10 dB

29-7-(b)

In an HF station, the connection between the SWR bridge and the switch used for selecting between multiple antennas, is normally a:

- a twisted pair cable
- b coaxial cable
- c quarter-wave matching section
- d short length of balanced ladder-line

30-3-(a)

In a frequency modulation receiver, the output of this is connected to the mixer:

- a the high frequency oscillator
- b the frequency discriminator
- c the intermediate frequency amplifier
- d the speaker and/or headphones

31-7-(b)

In a single sideband and CW receiver, the output from this is connected to the product detector:

- a the mixer
- b the beat frequency oscillator
- c the radio frequency amplifier
- d the audio frequency amplifier

32-4-(c)

If two receivers are compared, the more sensitive receiver will produce:

- a more than one signal
- b less signal and more noise
- c more signal and less noise
- d a steady oscillator drift

33-0-(d)

This audio shaping network is added at an FM receiver to restore proportionally attenuated lower audio frequencies:

- a a pre-emphasis network
- b an audio prescaler
- c a heterodyne suppressor
- d a de-emphasis network

34-0-(c)

The tuning control of a superhet receiver changes the tuned frequency of the:

- a audio amplifier
- b IF amplifier
- c local oscillator
- d post-detector amplifier

35-0-(d)

A communications receiver provides a choice of four IF bandpass filters installed in it, one at 250 Hz, one at 500 Hz, one at 2.4 kHz, and one at 6 kHz. If you were listening to a single sideband transmission, you would use:

- a 250 Hz
- b 6 kHz
- c 500 Hz
- d 2.4 kHz

36-5-(b)

Front-end selectivity is provided by resonant networks both before and after the RF stage in a superhet receiver. This whole section of the receiver is often referred to as the:

- a preamble
- b preselector
- c preamplifier
- d pass-selector

37-1-(a)

In a frequency modulation transmitter, the microphone is connected to the:

- a speech amplifier
- b modulator
- c power amplifier
- d oscillator

38-9-(b)

In an single sideband transmitter, this is located between the mixer and the antenna:

- a variable frequency oscillator
- b linear amplifier
- c balanced modulator
- d radio frequency oscillator

39-6-(c)

The difference between DC input power and RF power output of a transmitter RF amplifier:

- a radiates from the antenna
- b is lost in the feedline
- c is dissipated as heat
- d is due to oscillating current

40-7-(a)

Harmonic frequencies are:

- a at multiples of the fundamental frequency
- b always lower in frequency than the fundamental frequency
- c any unwanted frequency above the fundamental frequency
- d any frequency causing TVI

41-0-(d)

Harmonics are to be avoided because they:

- a cause damage to amateur equipment
- b make your signal unreadable at other stations on that band
- c cause possible interference to other users of that band
- d cause possible interference to services using other bands

42-5-(b)

The capacitor value best suited for filtering the output of a 12 volt 1 amp DC power supply is:

- a 100 pF
- b 10,000 uF
- c 10 nF
- d 100 nF

43-0-(d)

A filter is used in a power supply to:

- a filter RF radiation from the output of the power supply
- b restore voltage variations
- c act as a 50 Hz tuned circuit
- d smooth the rectified waveform from the rectifier

44-7-(a)

When conversing via a VHF or UHF repeater, you should pause between overs for about:

- a 3 seconds
- b half a second
- c 30 seconds
- d several minutes

45-4-(d)

The standard frequency offset (split) for 2 metre repeaters in New Zealand is:

- a plus 600 kHz below 147 MHz, minus 600 kHz on or above 147 MHz
- b minus 5 MHz below 147 MHz, plus 5 MHz kHz on or above 147 MHz
- c plus 5 MHz below 147 MHz, minus 5 MHz kHz on or above 147 MHz
- d plus 600 kHz above 147 MHz, minus 600 kHz on or below 147 MHz

46-8-(c)

Many receivers have both RF and AF gain controls. These allow the operator to:

- a vary the receiver frequency and AM transmitter frequency independently
- b vary the low and high frequency audio gain independently
- c vary the gain of the radio frequency and audio frequency amplifier stages independently
- d vary the receiver's "real" and "absolute" frequencies independently

47-4-(c)

The "Q" signal "what is your location?" is:

- a QRZ?
- b QTC?
- c QTH?
- d QRL?

48-7-(b)

An RF transmission line should be matched at the transmitter end to:

- a prevent frequency drift
- b transfer maximum power to the antenna
- c overcome fading of the transmitted signal
- d ensure that the radiated signal has the intended polarisation

49-5-(b)

An instrument to check whether RF power in the transmission line is transferred to the antenna is:

- a an antenna tuner
- b a standing wave ratio meter
- c a dummy load
- d a keying monitor

50-9-(a)

Radio wave polarisation is defined by the orientation of the radiated:

- a electric field
- b magnetic field
- c inductive field
- d capacitive field

51-9-(b)

A half-wave antenna resonant at 7100 kHz is approximately this long:

- a 40 metres
- b 20 metres
- c 80 metres
- d 160 metres

52-1-(a)

A half-wave antenna cut for 7 MHz can be used on this band without change:

- a 15 metre
- b 10 metre
- c 20 metre
- d 80 metre

53-4-(c)

The maximum radiation from a three element Yagi antenna is:

- a in the direction of the reflector end of the boom
- b at right angles to the boom
- c in the direction of the director end of the boom
- d parallel to the line of the coaxial feeder

54-5-(a)

That portion of HF radiation which is directly affected by the surface of the earth is called:

- a ground wave
- b local field wave
- c inverted wave
- d ionospheric wave

55-7-(a)

A variation in received signal strength caused by slowly changing differences in path lengths is called:

- a fading
- b absorption
- c fluctuation
- d path loss

56-7-(b)

VHF or UHF signals transmitted towards a tall building are often received at a more distant point in another direction because:

- a these waves are easily bent by the ionosphere
- b these waves are easily reflected by objects in their path
- c you can never tell in which direction a wave is travelling
- d tall buildings have elevators

57-1-(b)

On an amateur receiver, unwanted signals are found at every 15.625 kHz.

This is probably due to:

- a a low-frequency government station
- b radiation from a nearby TV line oscillator
- c a remote radar station
- d none of these

58-6-(c)

A band-pass filter will:

- a pass frequencies each side of a band
- b attenuate low frequencies but not high frequencies
- c attenuate frequencies each side of a band
- d attenuate high frequencies but not low frequencies

59-1-(b)

Television interference caused by harmonics radiated from an amateur transmitter could be eliminated by fitting:

- a a low-pass filter in the TV receiver antenna input
- b a low-pass filter in the transmitter output
- c a high-pass filter in the transmitter output
- d a band-pass filter to the speech amplifier

60-0-(d)

A "modem" is a:

- a modulation de-emphasis unit
- b Morse demodulator
- c MOSFET de-emphasis unit
- d modulator/demodulator