

01-3-(a)

The Amateur Service in New Zealand is administered through this prime document:

- a the New Zealand Radiocommunications Regulations
- b the Broadcasting Act
- c the Telecommunications Act
- d the Radio Amateur's Handbook

02-7-(b)

For short periods, you may operate your amateur radio station somewhere in New Zealand away from the location entered in the administration's database:

- a after notifying the MED of your new location by e-mail
- b whenever you want to
- c only after a declared emergency
- d during an emergency traffic exercise

03-4-(c)

A logbook for recording information about stations worked:

- a is compulsory for every amateur radio operator
- b must list all messages sent
- c is recommended for all amateur radio operators
- d must record time in UTC

04-7-(b)

These letters are in general use for the first letters in New Zealand amateur radio callsigns:

- a LZ
- b ZL
- c VK
- d KV

05-1-(b)

A General Amateur Operator Certificate of Competency authorises the use of:

- a a TV receiver for interference tests
- b amateur radio transmitting apparatus only
- c maritime mobile equipment in emergencies
- d all amateur transceivers and test equipment

06-3-(b)

A secret code for the transmission of messages by the operator of an amateur station is:

- a permitted for emergency messages to be passed on to a government agency
- b not permitted except for control signals by the licensees of remote beacon or repeater stations
- c often used in amateur radio contests
- d only permitted for third-party traffic

07-3-(a)

A station using the callsign "VK3XYZ stroke ZL" is heard on your local VHF repeater. This is:

- a the station of an overseas visitor
- b a confused person, probably with a stolen transceiver
- c an unauthorised callsign
- d an illegal operator

08-5-(a)

In New Zealand, the "15 metre band" frequency limits are:

- a 21.00 to 21.45 MHz
- b 21.00 to 21.40 MHz
- c 21.00 to 21.35 MHz
- d 21.00 to 21.30 MHz

09-5-(b)

The following band used by amateurs is shared with another service in New Zealand:

- a 144 to 146 MHz
- b 51 to 53 MHz
- c 7.0 to 7.1 MHz
- d 24.89 to 24.99 MHz

10-1-(a)

Silicon, as used in diodes and transistors, has been doped to become:

- a a semiconductor
- b a superconductor
- c a conductor
- d an insulator

11-9-(b)

The name for the flow of electrons in an electric circuit is:

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

12-1-(a)

One kilohm is equal to:

- a 1000 ohm
- b 10 ohm
- c 0.01 ohm
- d 0.001 ohm

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

14-1-(a)

A circuit has a total resistance of 100 ohm and 50 volt is applied across it. The current flow will be:

- a 500 mA
- b 50 mA
- c 2 ampere
- d 20 ampere

15-5-(b)

Six identical 2-volt bulbs are connected in series. The supply voltage to cause the bulbs to light normally is:

- a 1.2 V
- b 12 V
- c 6 V
- d 2 V

16-2-(c)

Five 10 ohm resistors connected in series give a total resistance of:

- a 1 ohm
- b 5 ohm
- c 50 ohm
- d 10 ohm

17-0-(c)

Two 120 ohm resistors are arranged in parallel to replace a faulty resistor. The faulty resistor had an original value of:

- a 15 ohm
- b 30 ohm
- c 60 ohm
- d 120 ohm

18-6-(c)

A 20 ohm resistor carries a current of 0.25 ampere. The power dissipated is:

- a 5 watt
- b 2.50 watt
- c 1.25 watt
- d 10 watt

19-8-(b)

A current of 10 ampere rms at a frequency of 50 Hz flows through a 100 ohm resistor. The power dissipated is:

- a 500 watt
- b 10,000 watt
- c 707 watt
- d 50,000 watt

20-3-(d)

The current in an AC circuit completes a cycle in 0.1 second. So the frequency is:

- a 1 Hz
- b 1000 Hz
- c 100 Hz
- d 10 Hz

21-6-(a)

Capacitors and inductors oppose an alternating current. This is known as:

- a reactance
- b resistance
- c resonance
- d conductance

22-4-(a)

A transformer with 500 turns on the primary winding and 50 turns on the secondary winding has its primary winding connected to 230 volt AC mains. The voltage across the secondary is:

- a 23 volt
- b 10 volt
- c 110 volt
- d 2300 volt

23-2-(a)

Wires carrying high voltages in a transmitter should be well insulated to avoid:

- a short circuits
- b overheating
- c over modulation
- d SWR effects

24-3-(d)

A bipolar transistor has three terminals named:

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

25-0-(b)

A varactor diode acts like a variable:

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

26-9-(a)

A triode valve has this many grids:

- a one
- b two
- c three
- d three plus a filament

27-9-(c)

An rms-reading voltmeter is used to measure a 50 Hz sinewave of known peak voltage 14 volt. The meter reading will be about:

- a 14 volt
- b 28 volt
- c 10 volt
- d 50 volt

28-5-(d)

An attenuator network has 10 volt rms applied to its input with 1 volt rms measured at its output. The attenuation of the network is:

- a 6 dB
- b 10 dB
- c 40 dB
- d 20 dB

29-9-(a)

In an HF station, the connection between the "antenna tuner" and the "antenna feed-point" could be made with:

- a 50 ohm coaxial cable
- b three-wire mains power cable
- c heavy hook-up wire
- d an iron-cored transformer

30-1-(b)

In a frequency modulation receiver, this is in between the antenna and the mixer:

- a the audio frequency amplifier
- b the radio frequency amplifier
- c the high frequency oscillator
- d the intermediate frequency amplifier

31-4-(d)

In a single sideband and CW receiver, this is located between the mixer and intermediate frequency amplifier:

- a the radio frequency amplifier
- b the beat frequency oscillator
- c the product detector
- d a filter

32-0-(c)

The frequency stability of a receiver is its ability to:

- a track the incoming signal as it drifts
- b provide a frequency standard
- c stay tuned to the desired signal
- d provide a digital readout

33-4-(d)

The stage in a superhet receiver with a tuneable input and fixed tuned output is the:

- a RF amplifier
- b IF amplifier
- c local oscillator
- d mixer stage

34-4-(c)

A superhet receiver, with a 500 kHz IF, is receiving a signal at 21.0 MHz. A strong unwanted signal at 22 MHz is interfering. The cause is:

- a insufficient IF selectivity
- b the 22 MHz signal is out-of-band
- c 22 MHz is the image frequency
- d insufficient RF gain

35-5-(a)

The mixer stage of a superheterodyne receiver is used to:

- a change the frequency of the incoming signal to that of the IF
- b allow a number of IF frequencies to be used
- c remove image signals from the receiver
- d produce an audio frequency for the speaker

36-2-(d)

The primary source of noise that can be heard in a UHF band receiver with its antenna connected is:

- a detector noise
- b atmospheric noise
- c man-made noise
- d receiver front-end noise

37-1-(a)

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

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

38-3-(a)

In a single sideband transmitter, the output of this is connected to a sideband-selecting filter:

- a balanced modulator
- b microphone
- c mixer
- d radio frequency oscillator

39-5-(a)

Several stations advise that your FM simplex transmission in the "two metre" band is distorted. The cause might be that:

- a the transmitter modulation deviation is too high
- b your antenna is too low
- c the transmitter has become unsynchronised
- d your transmitter frequency split is incorrect

40-5-(b)

Harmonics produced in an early stage of a transmitter may be reduced in a later stage by:

- a increasing the signal input to the final stage
- b using tuned circuit coupling between stages
- c using FET power amplifiers
- d using larger value coupling capacitors

41-6-(c)

Parasitic oscillations in the RF power amplifier stage of a transmitter may occur:

- a at low frequencies only
- b on harmonic frequencies
- c at high or low frequencies
- d at high frequencies only

42-7-(a)

A half-wave DC power supply operates from the New Zealand AC mains. The ripple frequency will be:

- a 50 Hz
- b 25 Hz
- c 70 Hz
- d 100 Hz

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

44-0-(c)

The correct order for callsigns in a callsign exchange at the start and end of a transmission is:

- a your callsign followed by the other callsign
- b your own callsign, repeated twice
- c the other callsign followed by your own callsign
- d the other callsign, repeated twice

45-3-(b)

A repeater operating with a "positive 600 kHz split":

- a transmits on a frequency 600 kHz higher than its designated frequency
- b listens on a frequency 600 kHz higher than its designated frequency
- c transmits simultaneously on its designated frequency and one 600 kHz higher
- d uses positive modulation with a bandwidth of 600 kHz

46-5-(b)

The "split frequency" function on a transceiver allows the operator to:

- a monitor two frequencies simultaneously using a single loudspeaker
- b transmit on one frequency and receive on another
- c monitor two frequencies simultaneously using two loudspeakers
- d receive CW and SSB signals simultaneously on the same frequency

47-3-(a)

The question "who is calling me?" is asked by:

- a QRZ?
- b QRM?
- c QRP?
- d QRT?

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

49-8-(c)

This commonly available antenna feedline can be buried directly in the ground for some distance, without adverse effects:

- a 75 ohm twinlead
- b 300 ohm twinlead
- c coaxial cable
- d 600 ohm open-wire

50-4-(d)

A centre-fed dipole antenna for HF working can be made to operate on several bands, if the following item is installed at points in each leg:

- a a capacitor
- b an inductor
- c a fuse
- d a parallel-tuned trap

51-2-(d)

An antenna which transmits equally well in all compass directions is a:

- a dipole with a reflector only
- b dipole with director only
- c half-wave horizontal dipole
- d quarter-wave grounded vertical

52-9-(a)

A vertical antenna which uses a flat conductive surface at its base is the:

- a quarter-wave ground plane
- b vertical dipole
- c rhombic
- d long wire

53-0-(c)

The main characteristic of a vertical antenna is that it:

- a requires few insulators
- b is very sensitive to signals coming from horizontal aerials
- c receives signals from all points around it equally well
- d is easy to feed with TV ribbon feeder

54-3-(b)

Solar cycles have an average length of:

- a 1 year
- b 11 years
- c 6 years
- d 3 years

55-3-(a)

Signal fadeouts resulting from an "ionospheric storm" or "sudden ionospheric disturbance" are usually attributed to:

- a solar flare activity
- b heating of the ionised layers
- c over-use of the signal path
- d insufficient transmitted power

56-6-(c)

The skip distance of a sky wave will be greatest when the:

- a ionosphere is most densely ionised
- b signal given out is strongest
- c angle of radiation is smallest
- d polarisation is vertical

57-6-(d)

A neighbour's stereo system is suffering RF break-through. One possible cure is to:

- a put a ferrite bead on the transmitter output lead
- b put a capacitor across the transmitter output
- c use open-wire feeders to the antenna
- d use screened wire for the loudspeaker leads

58-4-(d)

To reduce energy from an HF transmitter getting into a television receiver, the following could be placed in the TV antenna lead, as close to the TV as possible:

- a active filter
- b low-pass filter
- c band reject filter
- d high-pass filter

59-0-(c)

A low-pass filter may be used in an amateur radio installation:

- a to attenuate signals lower in frequency than the transmission
- b to boost the output power of the lower frequency transmissions
- c to attenuate signals higher in frequency than the transmission
- d to boost the power of higher frequency transmissions

60-6-(c)

When your HF digital transmission is received with errors due to multi-path conditions, you should:

- a increase transmitter power
- b reduce transmitter power
- c reduce transmitted baud rate
- d change frequency slightly