

01-9-(b)

The holder of a General Amateur Operator Certificate of Competency may:

- a retransmit public broadcasts
- b transmit in bands allocated to the Amateur Service
- c repair radio equipment for profit
- d transmit on public service frequencies

02-0-(d)

As the holder of a New Zealand General Amateur Operator Certificate of Competency, you may operate:

- a within your local Postal District
- b anywhere in the world
- c only at your home address
- d anywhere in New Zealand and in any other country that recognises the Certificate

03-8-(c)

A person may hold a General Amateur Operator Certificate of Competency after reaching this minimum age:

- a 18 years
- b 21 years
- c there is no age limit
- d the age for holding a motor vehicle driver's licence

04-4-(d)

Your amateur station is identified by transmitting your:

- a full name and address
- b "handle"
- c first name and location
- d callsign

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

06-7-(b)

Amateur radio operators may knowingly interfere with other radio communications or signals:

- a when tuning up a transmitting system
- b never
- c when another station already occupies your proposed transmitting frequency
- d if resulting interference is going to be inevitable

07-9-(b)

A General Amateur Operator Certificate of Competency:

- a has a limited life-time
- b does not confer on its holder a monopoly on the use of any frequency or band
- c is transferable to your descendants
- d provides a waiver over copyright

08-6-(c)

In New Zealand, the "10 metre band" frequency limits are:

- a 28.00 to 28.55 MHz
- b 28.00 to 28.65 MHz
- c 28.00 to 29.70 MHz
- d 28.00 to 29.75 MHz

09-8-(c)

When the Amateur Service is a secondary user of a band and another service is the primary user, this means:

- a nothing at all, because all services have equal rights to operate
- b amateurs may only use the band during declared emergencies
- c the band may be used by amateurs provided harmful interference is not caused to other services
- d you may increase transmitter power to overcome any interference

10-8-(d)

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

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

11-6-(d)

An electrical insulator:

- a lets electricity flow through it in one direction
- b lets electricity flow through it
- c lets electricity flow through it when light shines on it
- d does not let electricity flow through it

12-6-(c)

The unit for the potential difference between two points in a circuit is the:

- a ampere
- b ohm
- c volt
- d coulomb

13-1-(b)

A current of 10 mA is measured in a 500 ohm resistor. The voltage across the resistor will be:

- a 50 volt
- b 5 volt
- c 500 volt
- d 5000 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

15-0-(c)

The total resistance in a parallel circuit:

- a depends upon the voltage drop across each branch
- b could be equal to the resistance of one branch
- c is always less than the smallest branch resistance
- d depends upon the applied voltage

16-9-(a)

The following resistor combination can most nearly replace a single 150 ohm resistor:

- a three 47 ohm resistors in series
- b four 47 ohm resistors in parallel
- c five 33 ohm resistors in parallel
- d five 33 ohm resistors in series

17-7-(a)

Two 33 ohm resistors are connected in series with a power supply. If the current flowing is 100 mA, the voltage across one of the resistors is:

- a 3.3 volt
- b 66 volt
- c 33 volt
- d 1 volt

18-5-(a)

A current of 500 milliamp passes through a 1000 ohm resistance. The power dissipated is:

- a 250 watt
- b 0.25 watt
- c 2.5 watt
- d 25 watt

19-1-(b)

The following two electrical units multiplied together give the unit "watt":

- a volt and farad
- b volt and ampere
- c farad and henry
- d ampere and henry

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

21-5-(d)

Three 15 picofarad capacitors are wired in parallel. The value of the combination is:

- a 18 picofarad
- b 12 picofarad
- c 5 picofarad
- d 45 picofarad

22-8-(a)

An inductor and a capacitor form a resonant circuit. If the value of the inductor is decreased by a factor of four, the resonant frequency will:

- a increase by a factor of two
- b increase by a factor of four
- c decrease by a factor of two
- d decrease by a factor of four

23-0-(b)

You can safely remove an unconscious person from contact with a high voltage source by:

- a pulling an arm or a leg
- b turning off the high voltage and then removing the person
- c wrapping the person in a blanket and pulling to a safe area
- d calling an electrician

24-5-(c)

A low-level signal is applied to a transistor circuit input and a higher-level signal is present at the output. This effect is known as:

- a detection
- b modulation
- c amplification
- d rectification

25-3-(c)

Bipolar transistors usually have:

- a 4 connecting leads
- b 1 connecting lead
- c 3 connecting leads
- d 2 connecting leads

26-0-(a)

In a tetrode valve, the electron flow is from the:

- a cathode through the control grid then screen grid to the anode
- b emitter through the control grid to the collector
- c cathode through the screen grid then control grid to the anode
- d source through the Faraday shield to the drain

27-6-(b)

An ammeter should not be connected directly across the terminals of a 12 volt car battery because:

- a no current will flow because no other components are in the circuit
- b the resulting high current will probably destroy the ammeter
- c the battery voltage will be too low for a measurable current to flow
- d the battery voltage will be too high for a measurable current to flow

28-7-(c)

Two amplifiers with gains of 10 dB and 40 dB are connected in cascade. The gain of the combination is:

- a 8 dB
- b 30 dB
- c 50 dB
- d 400 dB

29-5-(a)

In an HF station, the "low pass filter" must be rated to:

- a carry the full power output from the station
- b filter out higher-frequency modulation components for maximum intelligibility
- c filter out high-amplitude sideband components
- d emphasise low-speed Morse code output

30-4-(c)

In a frequency modulation receiver, this is located between the mixer and the intermediate frequency amplifier:

- a the limiter
- b the frequency discriminator
- c a filter
- d the radio frequency amplifier

31-9-(a)

In a single sideband and CW receiver, this is connected to the output of the audio frequency amplifier:

- a the speaker and/or headphones
- b the mixer
- c the radio frequency amplifier
- d the beat frequency oscillator

32-1-(b)

The sensitivity of a receiver specifies:

- a the bandwidth of the RF preamplifier
- b its ability to receive weak signals
- c the stability of the oscillator
- d its ability to reject strong signals

33-9-(a)

The AGC circuit in a receiver usually controls the:

- a RF and IF stages
- b audio stage
- c mixer stage
- d power supply

34-7-(a)

A double conversion receiver usually has:

- a a high-frequency IF stage followed by a much lower frequency IF stage
- b only one IF stage
- c poor image frequency rejection
- d two IF stages and a discriminator

35-2-(c)

A multi-conversion superhet receiver is more susceptible to spurious responses than a single-conversion receiver, because of the:

- a poorer selectivity in the IF caused by the multitude of frequency changes
- b greater sensitivity introducing higher levels of RF to the receiver
- c additional oscillators and mixing frequencies involved in the design
- d AGC being forced to work harder causing the stages concerned to overload

36-4-(c)

Very low noise figures for a high frequency receiver are relatively unimportant because:

- a the received signal creates high noise levels
- b the use of SSB and CW on the HF bands overcomes the noise, regardless of the front end
- c external HF noise, man-made and natural, are higher than the internal noise generated by the receiver
- d the succeeding stages, when used on HF, are very noisy

37-1-(a)

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

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

38-2-(d)

In a single sideband transceiver, the device common to both transmit and receive that sets most of the performance characteristics is the:

- a mixer
- b variable frequency oscillator (VFO)
- c linear amplifier
- d sideband filter

39-1-(a)

The signal from a CW transmitter consists of:

- a an RF waveform which is keyed on and off to form Morse characters
- b a continuous unmodulated RF waveform
- c a continuous RF waveform modulated with an 800 Hz Morse signal
- d a continuous RF waveform which changes frequency in synchronism with an applied Morse signal

40-1-(b)

The third harmonic of 7 MHz is:

- a 10 MHz
- b 21 MHz
- c 14 MHz
- d 28 MHz

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

42-9-(b)

Electrolytic capacitors are used in power supplies because:

- a they are tuned to operate at 50 Hz
- b they can be obtained in larger values than other types
- c they have very low losses compared to other types
- d they radiate less RF noise than other types

43-2-(c)

A transformer is used in a power supply to:

- a transform the incoming mains AC voltage to a DC voltage
- b ensure that any RF radiation cannot get into the power supply
- c transform the mains AC voltage to a more convenient AC voltage
- d transform the mains AC waveform into a higher frequency waveform

44-5-(b)

The accepted way to announce that you are listening to a VHF repeater is:

- a "hello 7225, this is ZL2ZZZ listening"
- b "ZL2ZZZ listening on 7225"
- c "calling 7225, 7225, 7225 from ZL2ZZZ"
- d "7225 from ZL2ZZZ"

45-2-(c)

"Break-in keying" means:

- a unauthorised entry has resulted in station equipment disappearing
- b temporary emergency operating
- c key-down changes the station to transmit, key-up to receive
- d the other station's keying is erratic

46-0-(c)

A noise blanker on a receiver is most effective to reduce:

- a 50 Hz power supply hum
- b noise originating from the mixer stage of the receiver
- c ignition noise
- d noise originating from the RF stage of the receiver

47-0-(c)

The signal "QRM?" means:

- a your signals are fading
- b are you troubled by static?
- c is my transmission being interfered with?
- d your transmission is being interfered with

48-6-(c)

An HF coaxial feedline is constructed from:

- a a single conductor
- b two parallel conductors separated by spacers
- c braid and insulation around a central conductor
- d braid and insulation twisted together

49-4-(c)

A switching system to use a single antenna for a separate transmitter and receiver should also:

- a disconnect the antenna tuner
- b ground the antenna on receive
- c disable the unit not being used
- d switch between power supplies

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

51-8-(c)

A dummy antenna:

- a attenuates a signal generator to a desirable level
- b provides more selectivity when a transmitter is being tuned
- c duplicates the characteristics of an antenna without radiating signals
- d matches an AF generator to the receiver

52-4-(d)

Insulators are used at the end of suspended antenna wires to:

- a increase the effective antenna length
- b make the antenna look more attractive
- c prevent any loss of radio waves by the antenna
- d limit the electrical length of the antenna

53-2-(d)

An antenna type commonly used on HF is the:

- a parabolic dish
- b 13-element Yagi
- c helical Yagi
- d cubical quad

54-2-(c)

The highest frequency that will be reflected back to the earth at any given time is known as the:

- a UHF
- b OWF
- c MUF
- d LUF

55-5-(b)

Propagation on 80 metres during the summer daylight hours is limited to relatively short distances because of:

- a the disappearance of the E layer
- b high absorption in the D layer
- c poor refraction by the F layer
- d pollution in the T layer

56-4-(d)

The type of atmospheric layers which will best return signals to earth are:

- a oxidised layers
- b heavy cloud layers
- c sun spot layers
- d ionised layers

57-7-(a)

When living in a densely-populated area, it is wise to:

- a use the minimum transmitter output power necessary
- b always use maximum transmitter output power
- c only transmit during popular television programme times
- d point the beam at the maximum number of television antennas

58-7-(b)

A band-stop filter will:

- a stop frequencies each side of a band
- b pass frequencies each side of a band
- c only allow one spot frequency through
- d pass frequencies below 100 MHz

59-3-(a)

A high-pass RF filter would normally be fitted:

- a at the antenna terminals of a TV receiver
- b between transmitter output and feedline
- c at the Morse key or keying relay in a transmitter
- d between microphone and speech amplifier

60-3-(b)

The following are three digital communication modes:

- a DSBSC, PACTOR, NBFM
- b AMTOR, PACTOR, PSK31
- c AGC, FSK, Clover
- d PSK31, AFC, PSSN