

01-7-(a)

An authorised officer from the Ministry of Business, Innovation & Employment can inspect a General Amateur Operator's Certificate of Competency:

- a at any time
- b during business hours
- c at any time but not on public holidays
- d at any time but not after 9 p.m.

02-1-(a)

As the holder of a General Amateur Operator Certificate of Competency, you may operate transmitters in your station:

- a any number at one time
- b only one at any time except in emergencies
- c one at a time
- d any number but must be on different bands

03-6-(d)

Repeater equipment and frequencies used by New Zealand radio amateurs are co-ordinated by:

- a a panel of repeater trustees
- b the Ministry of Business, Innovation & Employment
- c representatives from affected radio clubs
- d the NZART Frequency Management and Technical Advisory Group

04-2-(c)

The maximum output power permitted from an amateur station is:

- a that needed to overcome interference from other stations on the frequency you use
- b 400 watt mean power adjusted for antenna gain
- c specified in the amateur radio General User Radio Licence
- d the output rating of your final amplifier

05-2-(d)

Callsigns and General Amateur Operator Certificates of Competency are issued pursuant to the Regulations by the:

- a local radio club tutors
- b Minister of Communications
- c Department of External Affairs
- d Ministry of Business, Innovation & Employment Approved Radio Examiners

06-2-(c)

If you receive distress traffic and are unable to render assistance, you should:

- a log the circumstances and close down
- b continue with what you were doing
- c maintain watch until you are certain that assistance is forthcoming
- d take no action

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

09-0-(c)

Operation on the 130 to 190 kHz band requires:

- a a vertical half-wave dipole antenna
- b special permission to operate in hours of darkness
- c power output limited to a maximum of 5 watt e.i.r.p.
- d receivers and computers with sound cards

10-2-(c)

In the classic model of the atom:

- a the neutrons and the electrons orbit the nucleus
- b the protons and the neutrons orbit the nucleus in opposite directions
- c the electrons orbit the nucleus
- d the protons orbit around the neutrons

11-0-(c)

The plastic coating around wire is:

- a a conductor
- b an inductor
- c an insulator
- d a magnet

12-9-(a)

The unit of resistance is the:

- a ohm
- b farad
- c watt
- d resistor

13-5-(b)

A current of 2 ampere flows through a 16 ohm resistance. The applied voltage is:

- a 8 volt
- b 32 volt
- c 14 volt
- d 18 volt

14-7-(b)

The ohm is the unit of:

- a supply voltage
- b electrical resistance
- c electrical pressure
- d current flow

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

16-9-(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

17-1-(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

18-0-(d)

A transmitter power amplifier requires 30 mA at 300 volt. The DC input power is:

- a 300 watt
- b 9000 watt
- c 6 watt
- d 9 watt

19-0-(c)

The following two quantities should be multiplied together to find power:

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

20-0-(a)

An "alternating current" is so called because:

- a it reverses direction periodically
- b its direction of travel can be altered by a switch
- c its direction of travel is uncertain
- d it travels through a circuit using alternate paths

21-4-(b)

The material separating the plates of a capacitor is the:

- a semiconductor
- b dielectric
- c resistor
- d lamination

22-5-(c)

An inductor and a capacitor are connected in series. At the resonant frequency, the resulting impedance is:

- a totally reactive
- b maximum
- c minimum
- d totally inductive

23-5-(d)

The purpose of using three wires in the mains power cord and plug on amateur radio equipment is to:

- a make it inconvenient to use
- b prevent the plug from being reversed in the wall outlet
- c prevent short circuits
- d prevent the chassis from becoming live in case of an internal short to the chassis

24-9-(c)

The following material is considered to be a semiconductor:

- a copper
- b sulphur
- c silicon
- d tantalum

25-0-(b)

A varactor diode acts like a variable:

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

26-8-(d)

This is usually found on the inside of a thermionic valve:

- a argon
- b air
- c neon
- d a vacuum

27-5-(c)

When measuring the current drawn by a receiver from a power supply, the current meter should be placed:

- a in parallel with both receiver power supply leads
- b in parallel with one of the receiver power leads
- c in series with one of the receiver power leads
- d in series with both receiver power leads

28-3-(c)

A transmitter power amplifier has a gain of 20 dB. The ratio of the output power to the input power is:

- a 10
- b 20
- c 100
- d 40

29-4-(d)

In an HF station, the "linear amplifier" is:

- a an amplifier to remove distortion in signals from the transceiver
- b an amplifier with all components arranged in-line
- c a push-pull amplifier to cancel second harmonic distortion
- d an optional amplifier to be switched in when higher power is required

30-7-(a)

In a frequency modulation receiver, this is located between the limiter and the audio frequency amplifier:

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

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

32-3-(a)

The figure in a receiver's specifications which indicates its sensitivity is the:

- a signal plus noise to noise ratio
- b bandwidth of the IF in kilohertz
- c audio output in watts
- d number of RF amplifiers

33-2-(c)

An RF amplifier ahead of the mixer stage in a superhet receiver:

- a enables the receiver to tune a greater frequency range
- b means no BFO stage is needed
- c increases the sensitivity of the receiver
- d makes it possible to receive SSB signals

34-6-(d)

A superhet receiver receives an incoming signal of 3540 kHz and the local oscillator produces a signal of 3995 kHz. The IF amplifier is tuned to:

- a 3540 kHz
- b 3995 kHz
- c 7435 kHz
- d 455 kHz

35-8-(d)

It is very important that the oscillators contained in a superhet receiver are:

- a sensitive and selective
- b stable and sensitive
- c selective and spectrally pure
- d stable and spectrally pure

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

37-6-(c)

In a frequency modulation transmitter, the power amplifier output is fed to the:

- a frequency multiplier
- b microphone
- c antenna
- d modulator

38-4-(c)

In a single sideband transmitter, this is located between the balanced modulator and the mixer:

- a radio frequency oscillator
- b speech amplifier
- c filter
- d microphone

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

40-3-(a)

Increased harmonic output may be produced in a transmitter by:

- a overdriven amplifier stages
- b a linear amplifier
- c a low SWR
- d resonant circuits

41-1-(a)

Parasitic oscillations are to be avoided because:

- a they cause possible interference to other users of the radio frequency spectrum
- b they do not radiate very far
- c some cannot be adequately controlled
- d they do not always follow your modulation

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

44-8-(c)

Before calling CQ on the HF bands, you should:

- a request that other operators clear the frequency
- b request a signal report from any station listening
- c listen first, then ask if the frequency is in use
- d use a frequency where many stations are already calling

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

46-4-(c)

The "RIT" control on a transceiver:

- a reduces interference on the transmission
- b changes the frequency of the transmitter section without affecting the frequency of the receiver section
- c changes the frequency of the receiver section without affecting the frequency of the transmitter section
- d changes the transmitting and receiver frequencies by the same amount

47-2-(d)

The "Q signal" requesting the other station to send slower Morse code is:

- a QRL
- b QRN
- c QRM
- d QRS

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

51-6-(d)

The effect of adding a series inductance to an antenna is to:

- a increase the resonant frequency
- b have no change on the resonant frequency
- c have little effect
- d decrease the resonant frequency

52-2-(c)

This property of an antenna broadly defines the range of frequencies to which it will be effective:

- a front-to-back ratio
- b impedance
- c bandwidth
- d polarisation

53-5-(b)

The reflector and director(s) in a Yagi antenna are called:

- a oscillators
- b parasitic elements
- c tuning stubs
- d matching units

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

55-8-(c)

VHF and UHF bands are frequently used for satellite communication because:

- a the Doppler frequency change caused by satellite motion is much less than at HF
- b satellites move too fast for HF waves to follow
- c waves at these frequencies travel to and from the satellite relatively unaffected by the ionosphere
- d the Doppler effect would cause HF waves to be shifted into the VHF and UHF bands

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



57-0-(c)

Electromagnetic compatibility is:

- a two antennas facing each other
- b more than one relay solenoid operating simultaneously
- c the ability of equipment to function satisfactorily in its own environment, without introducing intolerable electromagnetic disturbances
- d the inability of equipment to function satisfactorily together and produce tolerable electromagnetic disturbances

58-0-(d)

When the signal from a transmitter overloads the audio stages of a broadcast receiver, the transmitted signal:

- a appears only when a broadcast station is received
- b is distorted on voice peaks
- c appears on only one frequency
- d can be heard irrespective of where the receiver is tuned

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

60-5-(a)

In digital communications, BPSK stands for:

- a binary phase shift keying
- b baseband polarity shift keying
- c band pass selective keying
- d burst pulse signal keying