

01-0-(c)

A brief definition for the Amateur Service is:

- a a private radio service intended only for emergency communications
- b a public radio service used for public service communications
- c a radiocommunication service for the purpose of self-training, intercommunication and technical investigation
- d a radio service for personal gain and public benefit

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

03-0-(c)

An amateur radio operator must have current mail and e-mail addresses, so the Ministry of Business, Innovation & Employment:

- a has a record of the location of every amateur station
- b can reimburse your station expenses
- c can send mail to the operator
- d can publish a callsign directory

04-0-(d)

You must surrender your General Amateur Operator Certificate of Competency at the age of:

- a 65 years
- b 70 years
- c 75 years
- d there is no age limit

05-8-(c)

A General Amateur Operator Certificate of Competency holder may permit any other person to:

- a take part in amateur radio communication
- b operate that operator's home station
- c pass brief messages of a personal nature, provided no fees or other consideration are requested or accepted
- d to work on radio repairs under their supervision

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

07-1-(b)

A New Zealand amateur radio operator may:

- a be prepared with emergency radio apparatus available on 12-hour notice
- b train for and support disaster relief activities
- c operate with emergency traffic-handling, using solar cells during week-end days
- d use portable antennas but, only during daylight hours

08-4-(d)

In New Zealand, the "20 metre band" frequency limits are:

- a 14.00 to 14.20 MHz
- b 14.00 to 14.25 MHz
- c 14.00 to 14.30 MHz
- d 14.00 to 14.35 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

10-1-(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

11-0-(c)

The plastic coating around wire is:

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

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

13-1-(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

15-4-(c)

You can operate this greatest number of identical lamps, each drawing a current of 250 mA, from a 5A supply:

- a 50
- b 30
- c 20
- d 5

16-5-(a)

If a 2.2 megohm and a 100 kilohm resistor are connected in series, the total resistance is:

- a 2.3 megohm
- b 2.1 megohm
- c 2.11 megohm
- d 2.21 megohm

17-3-(a)

The following combination of 28 ohm resistors has a total resistance of 42 ohm:

- a a combination of two resistors in parallel, then placed in series with another resistor
- b a combination of two resistors in parallel, then placed in series with another two in parallel
- c three resistors in series
- d three resistors in parallel

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

19-0-(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

20-4-(a)

An impure signal is found to have 2 kHz and 4 kHz components. This 4 kHz signal is:

- a a harmonic of the 2 kHz signal
- b a fundamental of the 2 kHz signal
- c a sub-harmonic of 2 kHz
- d the DC component of the main signal

21-9-(d)

Increasing the number of turns on an inductor will make its inductance:

- a decrease
- b remain unchanged
- c become resistive
- d increase

22-6-(b)

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

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

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

24-9-(c)

The following material is considered to be a semiconductor:

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

25-7-(c)

To bias a transistor to cut-off, the base must be:

- a at the collector potential
- b mid-way between collector and emitter potentials
- c at the emitter potential
- d mid-way between the collector and the supply potentials

26-9-(a)

A triode valve has this many grids:

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

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

28-5-(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

29-4-(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

30-9-(b)

In a frequency modulation receiver, this connects to the audio frequency amplifier output:

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

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

32-2-(d)

Of two receivers, the one capable of receiving the weakest signal will have:

- a an RF gain control
- b the loudest audio output
- c the greatest tuning range
- d the least internally generated noise

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

34-1-(b)

A superhet receiver, with an IF at 500 kHz, is receiving a 14 MHz signal. The local oscillator frequency is:

- a 19 MHz
- b 14.5 MHz
- c 500 kHz
- d 28 MHz

35-1-(a)

In a communications receiver, a highly-selective filter would be located in the:

- a IF circuits
- b local oscillator
- c audio output stage
- d detector

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

37-9-(a)

In a CW transmitter, this is located between the master oscillator and the power amplifier:

- a driver/buffer
- b audio amplifier
- c power supply
- d telegraph key

38-8-(c)

In a single sideband transmitter, the output of this is connected to the mixer:

- a radio frequency oscillator
- b linear amplifier
- c variable frequency oscillator
- d antenna

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

40-0-(c)

A harmonic of a signal transmitted at 3525 kHz would be expected to occur at:

- a 3573 kHz
- b 21050 kHz
- c 7050 kHz
- d 14025 kHz

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

42-3-(a)

The following could power a solid-state 10 watt VHF transceiver:

- a a 12 volt car battery
- b 6 penlite cells in series
- c a 12 volt, 500 mA plug-pack
- d a 6 volt 10 amp-hour gel cell

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

44-3-(a)

A signal report of "5 and 1" indicates:

- a perfect intelligibility but very low signal strength
- b very low intelligibility but good signal strength
- c perfect intelligibility, high signal strength
- d medium intelligibility and signal strength

45-9-(a)

The "National System" is:

- a a series of nationwide amateur radio linked repeaters in the 70 cm band
- b the legal licensing standard of Amateur operation in New Zealand
- c the official New Zealand repeater band plan
- d a nationwide emergency communications procedure

46-2-(b)

"VOX" stands for:

- a volume operated extension speaker
- b voice operated transmit
- c variable oscillator transmitter
- d voice operated expander

47-6-(d)

The "Q" signal "shall I decrease transmitter power?" is:

- a QRL?
- b QRZ?
- c QRN?
- d QRP?

48-0-(d)

Any length of transmission line may be made to appear as an infinitely long line by:

- a shorting the line at the end
- b leaving the line open at the end
- c increasing the standing wave ratio above unity
- d terminating the line in its characteristic impedance

49-7-(a)

The velocity factor of a coaxial cable with solid polythene dielectric is about:

- a 0.66
- b 0.1
- c 0.8
- d 1.0

50-0-(d)

The support member for the elements of a Yagi antenna is known as the:

- a reflector
- b driven element
- c director
- d boom

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

53-9-(b)

On VHF and UHF bands, polarisation of the receiving antenna is important in relation to the transmitting antenna, but on HF it is relatively unimportant because:

- a the ground wave and the sky wave continually shift the polarisation
- b the ionosphere can change the polarisation of the signal from moment to moment
- c anomalies in the earth's magnetic field profoundly affect HF polarisation
- d improved selectivity in HF receivers makes changes in polarisation redundant

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

55-6-(d)

The distance from the transmitter to the nearest point where the sky wave returns to the earth is called the:

- a angle of radiation
- b maximum usable frequency
- c skip zone
- d skip distance

56-3-(b)

Skip distance is a term associated with signals through the ionosphere. Skip effects are due to:

- a selective fading of local signals
- b reflection and refraction from the ionosphere
- c high gain antennas being used
- d local cloud cover



57-9-(b)

Cross-modulation is usually caused by:

- a key-clicks generated at the transmitter
- b rectification of strong signals in overloaded stages
- c improper filtering in the transmitter
- d lack of receiver sensitivity and selectivity

58-1-(a)

Cross-modulation of a broadcast receiver by a nearby transmitter would be noticed in the receiver as:

- a the undesired signal in the background of the desired signal
- b a lack of signals being received
- c interference only when a broadcast signal is received
- d distortion on transmitted voice peaks

59-7-(a)

The input impedance of an operational amplifier is generally:

- a very high
- b very low
- c capacitive
- d inductive

60-7-(b)

The letters BBS stand for:

- a binary baud system
- b bulletin board system
- c basic binary selector
- d broadcast band stopper