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