01-4
The world is divided into radio regulatory regions, each with different radio spectrum allocations. New Zealand is in:
a Region 1
b Region 2
c Region 3
d Region 4

02-3
An Amateur Station is a station that is:
a used primarily for emergency communications
b operated by the holder of a General Amateur Operator Certificate of Competency on the amateur radio bands
c owned and operated by a non-professional person
d used exclusively to support communications for sporting organisations

03-4
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

04-0
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

05-3
A printed copy of your General Amateur Operator Certificate of Competency can be replaced by:
a downloading and printing yours from the official database (or have an Approved Radio Examiner do this for you)
b download an application form from the MBIE website then, complete and submit it by post
c phone the MBIE, give your callsign and request one by post
d report your need to the nearest Approved Radio Examiner

06-0
The expression "amateur third party communications" refers to:
a three operators in a sequential contact
b the legal transmission of encrypted messages
c amateur operators passing messages for remuneration
d messages to or on behalf of non-licensed people or organisations

07-6
The abbreviation "VHF" refers to radio spectrum between:
a 30 kHz and 300 kHz
b 300 kHz and 3 MHz
c 3 MHz and 30 MHz
d 30 MHz and 300 MHz

08-7
In New Zealand, the "2 metre band" frequency limits are:
a 144 to 149 MHz
b 144 to 148 MHz
c 146 to 148 MHz
d 144 to 150 MHz

09-7
The following band is an exclusive primary allocation for New Zealand amateur radio operators:
a 21 to 21.45 MHz
b 10.1 to 10.15 MHz
c 146 to 148 MHz
d 3.5 to 3.9 MHz

10-4
An electric current passes through a wire and produces around the wire:
a nothing
b an electric field
c an electrostatic field
d a magnetic field

11-7
Four good electrical insulators are:
a glass, air, plastic, porcelain
b plastic, rubber, wood, carbon
c glass, wood, copper, porcelain
d paper, glass, air, aluminium

12-9
The unit of resistance is the:
a ohm
b farad
c watt
d resistor

13-0
The voltage across a resistor carrying current can be calculated using the formula:
a E = I + R [voltage equals current plus resistance]
b E = I - R [voltage equals current minus resistance]
c E = I x R [voltage equals current times resistance]
d E = I / R [voltage equals current divided by resistance]

14-7
The ohm is the unit of:
a supply voltage
b electrical resistance
c electrical pressure
d current flow

15-9
A dry cell has an open circuit voltage of 1.5 volt. When supplying a large current, the voltage drops to 1.2 volt. This is due to the cell's:
a voltage capacity
b internal resistance
c electrolyte becoming dry
d current capacity

16-7
The total resistance of four 68 ohm resistors wired in parallel is:
a 12 ohm
b 17 ohm
c 34 ohm
d 272 ohm

17-1
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

18-4
The current in a 100 kilohm resistor is 10 mA. The power dissipated is:
a 1 watt
b 100 watt
c 10,000 watt
d 10 watt

19-5
Three 18 ohm resistors are connected in parallel across a 12 volt supply. The total power dissipation of the resistor load is:
a 3 watt
b 18 watt
c 36 watt
d 24 watt

20-6
One megahertz is equal to:
a 0.0001 Hz
b 1000 kHz
c 100 kHz
d 10 Hz

21-8
The reactance of an inductor increases as the:
a frequency decreases
b frequency increases
c applied voltage increases
d applied voltage decreases

22-1
Two 20 uH inductances are connected in series. The total inductance is:
a 10 uH
b 20 uH
c 40 uH
d 80 uH

23-4
An earth wire should be connected to the metal chassis of a mains-operated power supply, to ensure that if a fault develops, the chassis:
a does not develop a high voltage with respect to the phase lead
b does not develop a high voltage with respect to earth
c becomes a conductor to bleed away static charge
d provides a path to ground in case of lightning strikes

24-6
The type of rectifier diode found most often in power supplies is:
a lithium
b silicon
c germanium
d copper oxide

25-8
The two basic types of field effect transistors are:
a NPN and PNP
b n-channel and p-channel
c germanium and silicon
d inductive and capacitive

26-7
The electrode that is usually a cylinder of wire mesh in a thermionic valve is the:
a filament (heater)
b grid
c cathode
d anode

27-4
When measuring the current drawn by a light bulb from a DC supply, the meter will act in circuit as:
a a low value resistance
b an insulator
c a perfect conductor
d an extra current drain

28-2
An amplifier has a gain of 40 dB. Assuming the same impedances, the ratio of the rms output voltage to the rms input voltage is:
a 100
b 20
c 40
d 400

29-1
In your HF station, this is the most useful for determining the effectiveness of the antenna system:
a SWR bridge
b antenna switch
c linear amplifier
d dummy load

30-1
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

31-8
In a single sideband and CW receiver, this is connected to the output of the product detector:
a the intermediate frequency amplifier
b the high frequency oscillator
c the radio frequency amplifier
d the audio frequency amplifier

32-5
The ability of a receiver to separate signals close in frequency is called its:
a noise figure
b selectivity
c sensitivity
d bandwidth

33-6
A 7 MHz signal and a 16 MHz oscillator are applied to a mixer stage. The output will contain the input frequencies and:
a 8 and 9 MHz
b 7 and 9 MHz
c 9 and 23 MHz
d 3.5 and 9 MHz

34-9
A receiver squelch circuit:
a automatically keeps the audio output at maximum level
b silences the receiver speaker during periods of no received signal
c provides a noisy operating environment
d is not suitable for pocket-size receivers

35-0
A communications receiver provides a choice of four IF bandpass filters installed in it, one at 250 Hz, one at 500 Hz, one at 2.4 kHz, and one at 6 kHz. If you were listening to a single sideband transmission, you would use:
a 250 Hz
b 6 kHz
c 500 Hz
d 2.4 kHz

36-2
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

37-5
In an elementary frequency modulation transmitter, this is located between the frequency multiplier and the antenna:
a power amplifier
b modulator
c speech amplifier
d oscillator

38-7
In a single sideband transmitter, the output of the variable frequency oscillator is connected to the:
a mixer
b antenna
c balanced modulator
d linear amplifier

39-7
The process of modulation allows:
a information to be removed from a carrier
b information to be impressed on to a carrier
c voice and Morse code to be combined
d none of these

40-5
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

41-0
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

42-5
The capacitor value best suited for filtering the output of a 12 volt 1 amp DC power supply is:
a 100 pF
b 10,000 uF
c 10 nF
d 100 nF

43-4
The regulator device in a power supply could consist of:
a four silicon power diodes in a regulator configuration
b two silicon power diodes and a centre-tapped transformer
c a single silicon power diode connected as a half-wave rectifier
d a three-terminal regulator chip

44-1
The following phonetic code is correct for the callsign "ZL2KMJ":
a zulu lima two kilowatt mac jamboree
b zulu lima two kilo mike juliet
c zanzibar london two kilo mike japan
d zulu lima two kilowatt montreal japan

45-2
"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

46-4
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

47-8
The signal "QSY?" means:
a shall I relay to .... ?
b shall I increase transmitter power?
c shall I transmit on another frequency?
d is my signal fading?

48-8
A damaged antenna or feedline attached to the output of a transmitter will present an incorrect load resulting in:
a the driver stage not delivering power to the final
b the output tuned circuit breaking down
c loss of modulation in the transmitted signal
d excessive heating or protection shut-down in the transmitter output stage

49-2
A result of standing waves on a non-resonant transmission line is:
a maximum transfer of energy to the antenna from the transmitter
b perfect impedance match between transmitter and feedline
c lack of radiation from the transmission line
d reduced transfer of RF energy to the antenna

50-2
The shortest "active" element of a Yagi antenna is the:
a boom
b reflector
c director(s)
d driven element

51-6
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

52-0
A radio wave with a frequency of 3.8 MHz has a wavelength of:
a 78.94cm
b 7894m
c 789.4m
d 78.94m

53-7
The main reason why many VHF base and mobile antennas in amateur use are 5/8 of a wavelength long is that:
a most of the energy is radiated at a low angle
b it is easy to match the antenna to the transmitter
c it is a convenient length on VHF
d the angle of radiation is high giving excellent local coverage

54-0
A "skip zone" is:
a the distance between the antenna and where the refracted wave first returns to earth
b the distance between any two refracted waves
c a zone caused by lost sky waves
d the distance between the far end of the ground wave and where the refracted wave first returns to earth

55-7
A variation in received signal strength caused by slowly changing differences in path lengths is called:
a fading
b absorption
c fluctuation
d path loss

56-1
The MUF for a given radio path is the:
a maximum usable frequency
b mean of the maximum and minimum usable frequencies
c minimum usable frequency
d mandatory usable frequency

57-8
When someone in the neighbourhood complains of TVI, it is wise to:
a deny all responsibility
b immediately blame the other equipment
c check your log to see if it coincides with your transmissions
d inform all the other neighbours

58-9
Installing a low-pass filter between the transmitter and transmission line will:
a permit lower frequency signals to pass to the antenna
b permit higher frequency signals to pass to the antenna
c ensure an SWR not exceeding 2:1
d reduce the power output back to the legal maximum

59-4
A high-pass filter attenuates:
a a band of frequencies in the VHF region
b all except a band of VHF frequencies
c low frequencies but not high frequencies
d high frequencies but not low frequencies

60-8
"ITA2" is:
a Morse code sent such that the baud speed is equal to the dot speed
b a coding system identifying modulation types
c an error correction code
d a 5 bit alphabet used for digital communications