01 - 4The world is divided into radio regulatory regions, each with different radio spectrum allocations. New Zealand is in: Region 1 а Region 2 b Region 3 С d Region 4 02 - 3An Amateur Station is a station that is: used primarily for emergency communications а operated by the holder of a General Amateur Operator Certificate of b Competency on the amateur radio bands owned and operated by a non-professional person C d used exclusively to support communications for sporting organisations 03-4 A logbook for recording information about stations worked: is compulsory for every amateur radio operator а b must list all messages sent c is recommended for all amateur radio operators d must record time in UTC 04 - 0You must surrender your General Amateur Operator Certificate of Competency at the age of: 65 years a b 70 years 75 years С d there is no age limit 05-3 A printed copy of your General Amateur Operator Certificate of Competency can be replaced by: downloading and printing yours from the official database (or have an а Approved Radio Examiner do this for you) b download an application form from the MBIE website then, complete and submit it by post phone the MBIE, give your callsign and request one by post С report your need to the nearest Approved Radio Examiner d 06-0 The expression "amateur third party communications" refers to: three operators in a sequential contact a b the legal transmission of encrypted messages amateur operators passing messages for remuneration С messages to or on behalf of non-licensed people or organisations d 07-6 The abbreviation "VHF" refers to radio spectrum between: 30 kHz and 300 kHz а 300 kHz and 3 MHz b С 3 MHz and 30 MHz d 30 MHz and 300 MHz

08-7 In New Zealand, the "2 metre band" frequency limits are: 144 to 149 MHz а 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: а nothing b an electric field c an electrostatic field d a magnetic field 11-7 Four good electrical insulators are: glass, air, plastic, porcelain а b plastic, rubber, wood, carbon c glass, wood, copper, porcelain d paper, glass, air, aluminium 12-9 The unit of resistance is the: ohm а farad b С watt resistor d 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] С 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 electrical resistance b electrical pressure С 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: voltage capacity а b internal resistance electrolyte becoming dry С d current capacity

16-7 The total resistance of four 68 ohm resistors wired in parallel is: 12 ohm а 17 ohm b 34 ohm С 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 A has half the resistance of B h the voltage across A is twice that across B С the voltage across B is twice that across B d 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: 3 watt a b 18 watt c 36 watt d 24 watt 20-6 One megahertz is equal to: 0.0001 Hz а 1000 kHz b c 100 kHz d 10 Hz 21-8 The reactance of an inductor increases as the: a frequency decreases b frequency increases applied voltage increases С d applied voltage decreases 22-1 Two 20 uH inductances are connected in series. The total inductance is: 10 uH а 20 uH b 40 uH С d 80 uH

23 - 4An earth wire should be connected to the metal chassis of a mainsoperated power supply, to ensure that if a fault develops, the chassis: does not develop a high voltage with respect to the phase lead а does not develop a high voltage with respect to earth b becomes a conductor to bleed away static charge С 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 С germanium d copper oxide 25-8 The two basic types of field effect transistors are: а NPN and PNP b n-channel and p-channel c germanium and silicon inductive and capacitive d 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: а 100 b 20 40 С d 400 29 - 1In your HF station, this is the most useful for determining the effectiveness of the antenna system: SWR bridge а 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: the audio frequency amplifier а the radio frequency amplifier b the high frequency oscillator С d the intermediate frequency amplifier 31-8 In a single sideband and CW receiver, this is connected to the output of the product detector: the intermediate frequency amplifier а the high frequency oscillator b the radio frequency amplifier С the audio frequency amplifier d 32-5 The ability of a receiver to separate signals close in frequency is called its: noise figure a 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 С 9 and 23 MHz d 3.5 and 9 MHz 34-9 A receiver squelch circuit: automatically keeps the audio output at maximum level а 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: а 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: power amplifier а b modulator c speech amplifier d oscillator 38 - 7In a single sideband transmitter, the output of the variable frequency oscillator is connected to the: mixer а h antenna c balanced modulator d linear amplifier 39-7 The process of modulation allows: information to be removed from a carrier a information to be impressed on to a carrier b c voice and Morse code to be combined d none of these 40 - 5Harmonics produced in an early stage of a transmitter may be reduced in a later stage by: increasing the signal input to the final stage a b using tuned circuit coupling between stages using FET power amplifiers С d using larger value coupling capacitors 41-0 Harmonics are to be avoided because they: cause damage to amateur equipment a 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: four silicon power diodes in a regulator configuration а two silicon power diodes and a centre-tapped transformer b 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": zulu lima two kilowatt mac jamboree а 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 key-down changes the station to transmit, key-up to receive С d the other station's keying is erratic 46-4 The "RIT" control on a transceiver: reduces interference on the transmission а changes the frequency of the transmitter section without affecting b the frequency of the receiver section c changes the frequency of the receiver section without affecting the frequency of the transmitter section changes the transmitting and receiver frequencies by the same amount d 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: the driver stage not delivering power to the final a the output tuned circuit breaking down b c loss of modulation in the transmitted signal excessive heating or protection shut-down in the transmitter output d 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 reflector b c director(s) d driven element

51-6 The effect of adding a series inductance to an antenna is to: increase the resonant frequency а 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 7894m b 789.4m С 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: most of the energy is radiated at a low angle а b it is easy to match the antenna to the transmitter it is a convenient length on VHF С the angle of radiation is high giving excellent local coverage d 54-0 A "skip zone" is: the distance between the antenna and where the refracted wave first а returns to earth the distance between any two refracted waves b a zone caused by lost sky waves С the distance between the far end of the ground wave and where the d refracted wave first returns to earth 55-7 A variation in received signal strength caused by slowly changing differences in path lengths is called: fading а 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: deny all responsibility a immediately blame the other equipment b 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: permit lower frequency signals to pass to the antenna а b permit higher frequency signals to pass to the antenna С 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 low frequencies but not high frequencies С d high frequencies but not low frequencies 60-8 "ITA2" is: Morse code sent such that the baud speed is equal to the dot speed а b a coding system identifying modulation types c an error correction code d a 5 bit alphabet used for digital communications