

Halifax Amateur Radio Club

Basic Course

Regulations

25% of exam

Helen VA1YL

Regulations and Policies –

- 001 1-1 radio licences, applicability, eligibility of licence holder
- 1-2 licence fee, term, posting requirements, change of address
- 1-3 licence suspension or revocation, powers of radio inspectors, offenses and punishments
- 1-4 operator certificates, applicability, eligibility, equivalents, reciprocal recognition
- 1-5 operation, repair and maintenance of radio apparatus on behalf of other persons
- 1-6 operation of radio apparatus, terms of licence, applicable standards, exempt apparatus
- 1-7 content restrictions - non-superfluous, profanity, secret code, music, non-commercial
- 1-8 installation and operating restrictions - number of stations, repeaters, home-built, club stations
- 1-9 participation in communications by visitors, use of station by others
- 1-10 interference, determination, protection from interference
- 1-11 emergency communications (real or simulated), communication with non-amateur stations
- 1-12 non-remuneration, privacy of communications
- 1-13 station identification, call signs, prefixes
- 1-14 foreign amateur operation in Canada, banned countries, third-party messages
- 1-15 frequency bands and qualification requirements
- 1-16 maximum bandwidth by frequency bands
- 1-17 restrictions on capacity and power output by qualifications
- 1-18 unmodulated carriers, re-transmission
- 1-19 amplitude modulation, frequency stability, measurements
- 1-20 International Telecommunication Union (ITU) Radio Regulations, applicability
- 1-21 operation outside Canada, ITU regions, reciprocal privileges, international licences
- 1-22 examinations - department's fees, delegated examinations, fees, disabled accommodation
- 1-23 antenna structure approval, neighbour and land-use authority consultation
- 1-24 radiofrequency electromagnetic field limits
- 1-25 criteria for resolution of radio frequency interference complaints

Download and study:

RIC-3

RBR-4

EMCAB-2

CPC-2-0-03

They are available from Industry
Canada of Coax Publications

Coax Publications has the
questions on Regulations with the
answers.

You need to sign in to get them but
they are **very** helpful.

License Levels

Basic

Basic with Honours

Basic with 5 words per minute Morse Code

Advanced

The license level of the station owner is the limitation on the power level and band use.

i.e. – if you only have Basic, I can't come over & transmit on HF.

If you only have Basic with Honours, I can't come over & use 600 W.

If you come to my station, you can use my callsign & you can use HF & amplifier as long as I am "in control"...

Power Levels

Basic

250 W input

560 W peak envelope power

19 W carrier Power

Advanced

1000 W input

2,250 W peak envelope power

75 W Carrier Power

Basic – only below 30,000 kHz VHF, UHF (6 Meters, 2 M, etc)

Basic with 5 words per minute Morse Code – all bands

Basic with Honours – all bands

License Privileges

| | |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Basic | UHF, VHF, no amplifier |
| Basic with Honours | VHF, UHF, HF, no amplifier |
| Basic and 5 WPM Morse code | VHF, UHF, HF, no amplifier |
| Advanced | VHF, UHF, HF, amplifier producing power above Basic Limits permission to run a repeater permission to operate home- brew transmitters |

Fees for examinations:

\$ 20 at Industry Canada

Examiner can charge you expenses – like printing, maybe gas?

- Amateur Callsign
Prefix, number, suffix

Province Prefixes

- know these - they will be on the exam and you will use them on the air!

Each station must transmit its callsign at least every thirty minutes, and at the beginning and at the end of a contact. In Canada it must be in either English or French.

To get a 2 letter suffix you need an Advanced Licence and 5 years of being licenced.

VY1

VE8

VE7

VY0

VO2

VO1

VY2

VE1

VE6

VE5

VE4

VE3

VE2

VE9



VE0 is the marine prefix.

In the 1990's VE3 land ran out of VE3 calls.

VA calls were introduced where there were VE calls in Canada.

There are also special event prefixes in Canada

And two more prefixes for Canada – CY0 (Sable Island) and CY9 (St Paul Island)

Basic Rules:

No one can operate at Ham station without a Licensed Amateur in Control

You must identify in French or English, at beginning of transmission and at least once every 30 minutes.

No one is too young to be an amateur if he/she can pass the test

Charging money for sending a message is forbidden

Transmitting profane language is forbidden

Sending Music is forbidden

Resending Broadcast transmissions is forbidden

Using transmission in support of industrial, business or professional activities is forbidden

No secret codes are permitted

Keep License at Station. If you are mobile be able to produce it within 48 hours.

Change of Address – Notify Industry Canada within 30 days.

Off shore – up to 4 miles you use the rules of the country you are close to.

An amateur station using radiotelephony
must install a device for indicating or
preventing Overmodulation

When operating on frequencies below 148
MHz the frequency stability must be
comparable to crystal control

All amateur stations, regardless of the mode of transmission used, must be equipped with a reliable means of determining the operating radio frequency

A reliable means to prevent or indicate overmodulation must be employed at an amateur station if Radiotelephony is used.

The maximum percentage of modulation permitted in the use of radiotelephony by an amateur station is 100 %

Criteria for Operation in the HF Bands

1. Morse code will no longer be the sole additional requirement by which Canadian radio amateurs will gain access to the HF bands, but together with a passing grade on the basic exam will remain as one valid criterion; likewise a passing grade on the basic exam together with a passing grade on the advanced exam gives you HF band access.
2. Amateurs showing superior knowledge of operational, technical and regulatory requirements by attaining an 80% score on the basic exam or passing the advanced exam, will also be granted access to the HF bands.
3. "Grandfathering"

Communicating on Behalf of Third Parties

- It means to pass a message to another ham radio operator from a non-ham.
- It means to allow a non-ham to communicate through your station with another ham by way of a phone patch into your radio station.
- It means to allow a non-ham to operate your radio under your supervision.

3rd Party Communications

3rd Party communications are allowing someone else without a licence to send messages while you are in control. In Canada you are allowed to do this, as long as the country you are talking to allows it.

This does not apply if you are passing on messages from

CFARS or MARS (Military Auxiliary Radio System) i.e. Canadian Forces or American Forces in a country that does not allow 3rd Party communications.

Speed of light? 288,000 M/s

1.800-2.000

3.500-4.000

7.000-7.300

14,000-14.350

28.000-29.700

160 M

80 M

40 M

20 M

10 M

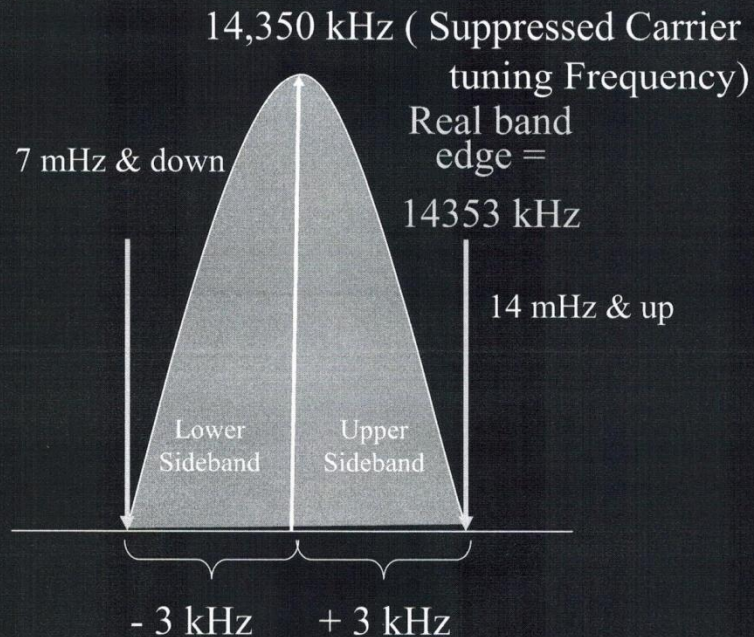
Bands & Bandwidths for Region 2

| | | | |
|-------|-------------------|--------|-----|
| 160 M | 1.800 - 2.000 | 6 kHz | HF |
| 80M | 3.500 - 4.000 | 6 kHz | HF |
| 40M | 7.000 - 7.300 | 6 kHz | HF |
| 30M | 10.100 - 10.150 | 1 kHz | HF |
| 20M | 14.000 - 14.350 | 6 kHz | HF |
| 17M | 18.068 -18.168 | 6 kHz | HF |
| 15M | 21.000 – 21.450 | 6 kHz | HF |
| 12M | 24.890 – 24.990 | 6 kHz | HF |
| 10M | 28.000 – 29.700 | 20 kHz | HF |
| 6 M | 50.000 – 54.000 | 30 kHz | VHF |
| 2 M | 144.000 – 148.000 | 30 kHz | VHF |
| 440 | 430.000 – 450.000 | 12 MHz | UHF |

Frequency Bands & Bandwidths

| Meters | Frequency Band | Maximum Bandwidth | Qualifications |
|--------|-----------------|-------------------|----------------|
| 160 | 1.800-2.000 | 6 kHz | B & 5, B/H/B&A |
| 80 | 3.500-4.000 | 6 kHz | B & 5, B/H/B&A |
| 40 | 7.000-7.300 | 6 kHz | B & 5, B/H/B&A |
| 30 | 10.100-10.150 | | B & 5, B/H/B&A |
| 20 | 14.000-14.350 | 6 kHz | B & 5, B/H/B&A |
| 17 | 18.068-18.168 | 6 kHz | B & 5, B/H/B&A |
| 15 | 21.000-21.450 | 6 kHz | B & 5, B/H/B&A |
| 12 | 24.890-24.990 | 6 kHz | B & 5, B/H/B&A |
| 10 | 28.000-29.700 | 20 kHz | B |
| 6 | 50.000-54.000 | 30 kHz | B |
| 2 | 144.000-148.000 | 30 kHz | B |
| 440 | 430.000-450.000 | 12 mHz | B |

Band Width & Band Edge



If you operate exactly at 14350 kHz
you will be 3 kHz outside the
allowable band for Radio Amateurs!!

Radio Amateurs operating in "suppressed carrier" single side-band mode would be using either the upper or lower sidebands, NOT both as shown here for illustrative purposes.

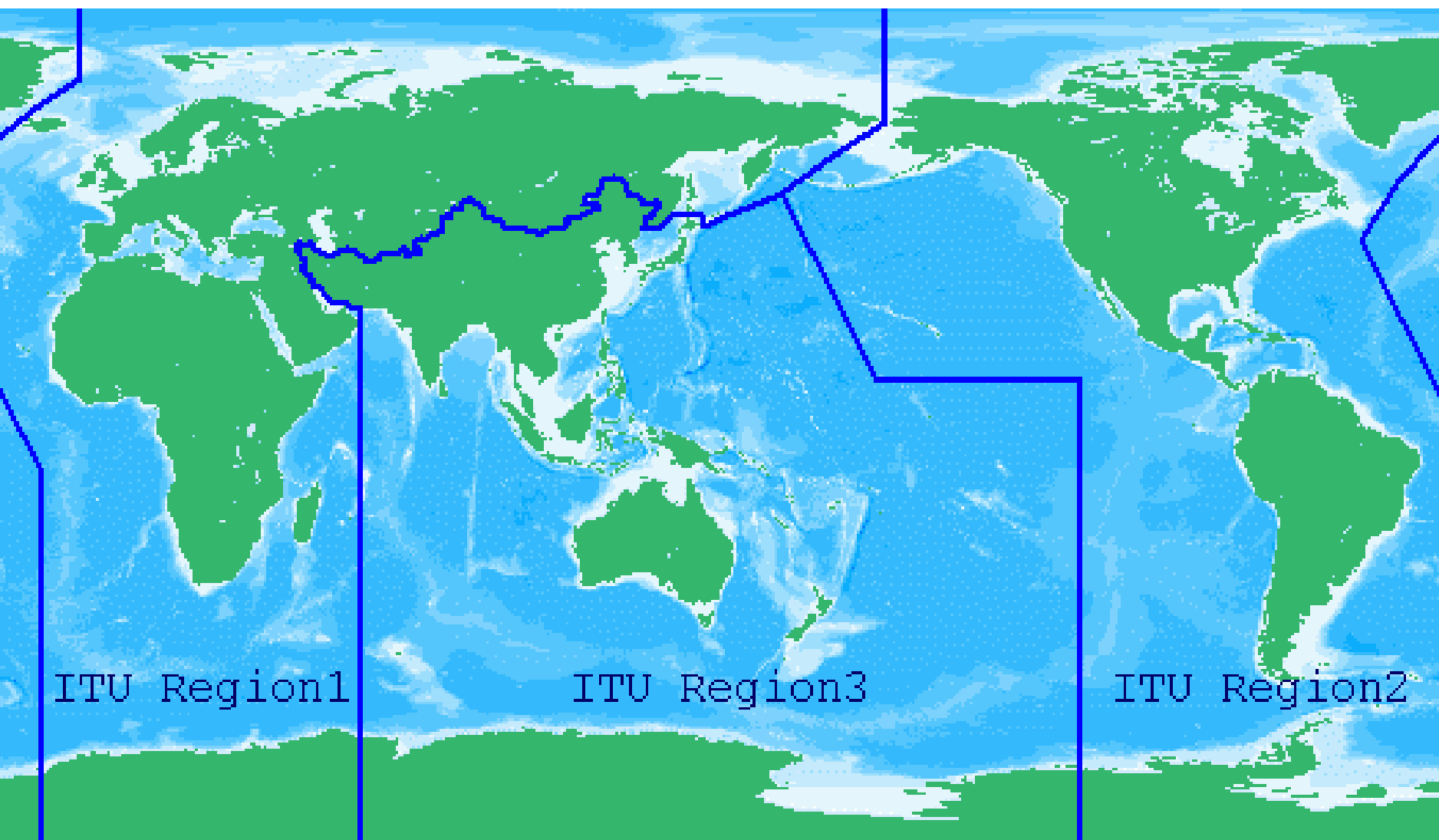
ITU Regions

Region 1 comprises Europe, Africa, the Middle East west of the Persian Gulf including Iraq, the former Soviet Union and Mongolia. The western boundary is defined by Line B.

Region 2 covers the Americas, which includes Canada, Greenland and some of the eastern Pacific Islands. The eastern boundary is defined by Line B.

Region 3 contains most of non-former-Soviet-Union Asia, east of and including Iran, and most of Oceania.

ITU Regions



Canada does NOT prohibit international communications on behalf of third parties, regardless of the country; in other words, there is no longer a “Forbidden Country List”.

- International third-party communication in the case of emergencies or disaster relief is expressly permitted Unless specifically prohibited by a foreign administration.
- Any foreign administration may permit its amateur stations to communicate on behalf of third parties without having to enter into any special arrangements with Canada

International Agreements

- CEPT –
European Conference of Postal and Telecommunications Administrations
 - Inter-European agreement of ~ 30 countries
 - see list RIC-3 (5.2.1)
 - Canada not a member
 - works through RAC to issue permit
- CEPT
Class 1 = Basic + 5 wpm • CEPT
Class 2 = Basic only
 - IARP (International Amateur Radio Permit
-North & South America) – Argentina / Brazil / Peru / USA / Uruguay /
Venezuela
 - • IARP Class 1 = Basic + 5 wpm
 - • IARP Class 2 = Basic only
 - • USA - No permit or registration required - BUT must follow US
Regulations.
 - • Other countries - see RAC

Operation Outside of Canada

- An amateur radio station that is operating on board a ship in international waters, or on board an aircraft in international air space, may operate on any frequency within the frequency bands and corresponding bandwidths AS SET OUT in Schedule I, II, III (RBR-4), as the case may be (i.e. your physical location at the time) and subject to the requirements for operator qualifications.

According to EMCAB-2 which of the following types of equipment is NOT included in the list of field strength criteria for resolution of immunity complaints?

- ☐ Broadcast transmitters
- ☐ Broadcast receivers
- ☐ Associated equipment
- ☐ Radio-sensitive equipment

CPC-2-0-03 —

Radiocommunication and Broadcasting Antenna Systems

1.3 Process Overview

This document outlines the process that must be followed by proponents seeking to install or modify antenna systems. The broad elements of the process are as follows:

Investigating sharing or using existing infrastructure before proposing new antenna-supporting structures.

Contacting the land-use authority (LUA) to determine local requirements regarding antenna systems.

Undertaking public notification and addressing relevant concerns, whether by following local LUA requirements or Industry Canada's default process, as is required and appropriate.

Satisfying Industry Canada's general and technical requirements.

Completing the construction.

It is Industry Canada's expectation that steps (2) to (4) will normally be completed within **120 days**.

Proponents must follow Industry Canada's Default Public Consultation Process where the local land-use authority does not have an established and documented public consultation process applicable to antenna siting. Industry Canada's default process has three steps whereby the proponent:

provides written notification to the public, the land-use authority and Industry Canada of the proposed antenna system installation or modification (i.e. *public notification*);

engages the public and the land-use authority in order to address relevant questions, comments and concerns regarding the proposal (i.e. *responding to the public*); and

provides an opportunity to the public and the land-use authority to formally respond in writing to the proponent regarding measures taken to address reasonable and relevant concerns (i.e. *public reply comment*).

The following proposals are excluded from land-use authority and public consultation requirements:

New Antenna Systems: where the height is less than 15 metres above ground level.

Existing Antenna Systems: where modifications are made, antennas added or the tower replaced^{[Footnote10](#)}, including to facilitate sharing, provided that the total cumulative height increase is no greater than 25% of the height of the initial antenna system installation^{[Footnote11](#)}. No increase in height may occur within one year of completion of the initial construction. This exclusion does not apply to antenna systems using purpose built antenna supporting structures with a height of less than 15 metres above ground level operated by telecommunications carriers, broadcasting undertakings or third party tower owners;

Non-Tower Structures: antennas on buildings, water towers, lamp posts, etc. may be excluded from consultation provided that the height above ground of the non-tower structure, exclusive of appurtenances, is not increased by more than 25%^{[Footnote12](#)} and

Temporary Antenna Systems: used for special events or emergency operations and must be removed within three months of the start of the emergency or special event.

What is Harmful Interference?

a transmission that disturbs
other communications

Interference

Download & Read EMCAB-2!

| Type of Equipment | Field Strength Criterion | |
|---------------------------|--------------------------|--------------|
| | $\text{dB}\mu\text{V/m}$ | V/m |
| Broadcasting Receivers | 125 | 1.83 |
| Associated Equipment | 125 | 1.83 |
| Radio-Sensitive Equipment | 130 | 3.16 |

If the level of the transmitted signal exceeds the field strength value on the premises of the affected equipment, it will be deemed that the transmission is the cause of the problem. If it is less, then the lack of immunity is the problem.

This does not apply to AM, FM or TV broadcasting.

Interference Definitions

| | |
|---------------------------|---------------------------------------------------------------------------|
| Broadcasting Receivers | Radios, TVs, etc. |
| Associated Equipment | audio & video recorders, tuners, playback devices, amplifiers, etc. |
| Radio-Sensitive Equipment | all other non-radio electronic equipment |

When may you deliberately interfere with another station's communications?

- ☐ Only if the station begins transmitting on a frequency you are using
 - ☐ You may expect, and cause, deliberate interference because it can't be helped during crowded band conditions
 - ☐ Never
- ☐ Only if the station is operating illegally

What rule applies if two amateur stations want to use the same frequency?

- ☐ Both station operators have an equal right to operate on the frequency
- ☐ The station operator with a lesser qualification must yield the frequency to an operator of a higher qualification
- ☐ The station operator with a lower power output must yield the frequency to the station with a higher power output
- ☐ Station operators in ITU Regions 1 and 3 must yield the frequency to stations in ITU Region 2

< Both station operators have an equal right to operate on the frequency >
* Comment – The polite thing is to allow the first user to keep the frequency and QSY if you are second

Net frequencies

If the frequency you want to use or are using is a regular net frequency, it is polite to QSY to clear the frequency.

Disaster Frequencies

There are frequencies that are commonly used for disaster transmissions. If you are not helping with the disaster, please stay clear. However, it is good to listen & see if there is anything you can do to help.

The following slides are questions from the Coax question Bank, with answers.

Be careful to read the questions carefully. Especially notice if “not” is part of the question!

Authority to make “Radiocommunication Regulations” is derived from:

- ☐ the Radiocommunication Regulations
- ☐ Standards for the Operation of Radio Stations in the Amateur Radio Service
- ☐ the ITU Radio Regulations
- ☐ the Radiocommunication Act

< the Radiocommunication Act >

In addition to complying with the Radiocommunication Act and Regulations, Canadian radio amateurs must also comply with the regulations of the:

- ☐ International Amateur Radio Union
- ☐ International Telecommunication Union
- ☐ American Radio Relay League
- ☐ Radio Amateurs of Canada Inc.

< International Telecommunication Union >

RIC-3 – Sec. 5.1

A Canadian radio amateur, operating his station in the state of Florida, is subject to which frequency band limits?

- ☐ ITU Region 1
 - ☐ Those applicable to US radio amateurs
- ☐ ITU Region 2
- ☐ ITU Region 3

< Those applicable to US radio amateurs >

If the regulations say that the amateur service is a secondary user of a frequency band, and another service is a primary user, what does this mean?

- ☐ Amateurs are allowed to use the frequency band only if they do not cause interference to primary users
- ☐ Nothing special: all users of a frequency band have equal rights to operate
 - ☐ Amateurs are only allowed to use the frequency band during emergencies
- ☐ Amateurs must increase transmitter power to overcome any interference caused by primary users

< Amateurs are allowed to use the frequency band only if they do not cause interference to primary users >

What name is given to a form of interference that seriously degrades, obstructs or repeatedly interrupts a radiocommunication service?

- ☐ Disruptive interference
- ☐ Harmful interference
- ☐ Intentional interference
- ☐ Adjacent interference

< Harmful interference >

Where interference to the reception of radiocommunications is caused by the operation of an amateur station:

- ☐ the Minister may require that the necessary steps for the prevention of the interference be taken by the radio amateur
- ☐ the amateur station operator is not obligated to take any action
- ☐ the amateur station operator may continue to operate without restrictions
- ☐ the amateur station operator may continue to operate and the necessary steps can be taken when the amateur operator can afford it

<the Minister may require that the necessary steps for the prevention of the interference be taken by the radio amateur>

Radio amateur operation must not cause interference to other radio services operating in which of the following bands?

- ☐ 14.0 to 14.2 MHz
- ☐ 430.0 to 450.0 MHz
- ☐ 7.0 to 7.1 MHz
- ☐ 144.0 to 148.0 MHz

< 430.0 to 450.0 MHz >

Amateurs are secondary users on the 430 - 450 MHz band.

Radio amateur operations ARE
NOT protected from interference
caused by another service
operating in which of the following
frequency bands?

- ☐ 902 to 928 MHz
- ☐ 144 to 148 MHz
- ☐ 222 to 225 MHz
- ☐ 50 to 54 MHz

< 902 to 928 MHz >

Amateurs are secondary users on 902 - 928 MHz band. This is an ISM band, the “home” of such things as baby monitors and wireless power meters used by your local electrical utility! These are all licence exempt.

Which of the following is **NOT** correct? The operator of an amateur station:

- ☐ may make trials or tests, except if there is a possibility of interference with other stations
- ☐ may make trials or tests, even though there is a possibility of interfering with other stations
- ☐ shall not cause harmful interference to a station in another service which has primary use of that band
- ☐ may conduct technical experiments using the station apparatus

< may make trials or tests, even though there is a possibility of interfering with other stations >

Which of these amateur bands may be heavily occupied by licence exempt devices?

- ☐ 3.5 to 4.0 MHz
- ☐ 430 to 450 MHz
- ☐ 135.7 to 137.8 kHz
- ☐ 902 to 928 MHz

< 902 to 928 MHz >

Amateurs are secondary users on 902 - 928 MHz band. This is the “home” of baby monitors and wireless power meters used by your local electrical utility! These are all licence exempt

The amateur radio service is authorized to share a portion of what Industrial Scientific Medical (ISM) band that is heavily used by licence exempt devices?

- ☐ 1240 to 1300 MHz
- ☐ 2300 to 2450 MHz
- ☐ 430 to 450 MHz
- ☐ 144 to 148 MHz

< 2300 to 2450 MHz >

Amateurs have been allocated access to 2300 - 2450 MHz. A portion of this falls into the ISM band, 2400 – 2500 MHz. If you operate in this band, you may have to contend with interference from licence exempt devices used for industrial, scientific, and medical purposes.

Amateur radio stations may communicate:

- ☐ with any station involved in a real or simulated emergency
- ☐ only with other amateur stations
- ☐ with anyone who uses international Morse code
- ☐ with non amateur stations

< only with other amateur stations >

During relief operations in the days following a disaster, when may an amateur use his equipment to communicate on frequencies outside amateur bands?

- ☐ When relaying messages on behalf of government agencies
- ☐ When messages are destined to agencies without amateur radio support
- ☐ When normal communication systems are overloaded, damaged or disrupted
- ☐ Never

< Never >

If you hear an unanswered distress signal on an amateur band where you do not have privileges to communicate:

- ☐ you should offer assistance
- ☐ you may offer assistance using international Morse code only
 - ☐ you may offer assistance after contacting Industry Canada for permission to do so
- ☐ you may not offer assistance

< you should offer assistance >

In the amateur radio service, it is permissible to broadcast:

- ☐ commercially recorded material
- ☐ programming that originates from a broadcast undertaking
- ☐ radio communications required for the immediate safety of life of individuals or the immediate protection of property
- ☐ music

< radio communications required for the immediate safety of life of individuals or the immediate protection of property >

An amateur radio station in distress may:

- ☐ use any means of radiocommunication
- ☐ only use radiocommunication bands for which the operator is qualified to use
- ☐ use any means of radiocommunication, but only on internationally recognized emergency channels
- ☐ only use Morse code communications on internationally recognized emergency channels

< use any means of radiocommunication >

During a disaster, when may an amateur station make transmissions necessary to meet essential communication needs and assist relief operations?

- ☐ When normal communication systems are overloaded, damaged or disrupted
 - ☐ Never: only official emergency stations may transmit in a disaster
- ☐ When normal communication systems are working but are not convenient
- ☐ Only when the local emergency net is activated

< When normal communication systems are overloaded, damaged or disrupted >

During an emergency, what power output limitations must be observed by a station in distress?

- ☐ 1500 watts PEP
- ☐ 200 watts PEP
- ☐ There are no limitations during an emergency
- ☐ 1000 watts PEP during daylight hours, reduced to 200 watts PEP during the night

< There are no limitations during an emergency >

During a disaster:

- ☐ use only frequencies in the 40 metre band
- ☐ use any United Nations approved frequency
- ☐ most communications are handled by nets using predetermined frequencies in amateur bands. Operators not directly involved with disaster communications are requested to avoid making unnecessary transmissions on or near frequencies being used for disaster communications
- ☐ use only frequencies in the 80 metre band

most communications are handled by nets using predetermined frequencies in amateur bands. Operators not directly involved with disaster communications are requested to avoid making unnecessary transmissions on or near frequencies being used for disaster communications

Messages from recognized public service agencies may be handled by amateur radio stations:

- ☐ using Morse code only
- ☐ when Industry Canada has issued a special authorization
- ☐ only on the 7 and 14 MHz bands
 - ☐ during peace time and civil emergencies and exercises

< during peace time and civil emergencies and exercises >

It is permissible to interfere with the working of another station if:

- ☐ the other station is not operating according to the Radiocommunication Regulations
- ☐ you both wish to contact the same station
- ☐ the other station is interfering with your transmission
- ☐ your station is directly involved with a distress situation

< your station is directly involved with a distress situation >

What kind of payment is allowed for third-party messages sent by an amateur station?

- ☐ Donation of amateur equipment
 - ☐ Donation of equipment repairs
- ☐ Any amount agreed upon in advance
- ☐ No payment of any kind is allowed

< No payment of any kind is allowed >

Radiocommunications transmitted by stations other than a broadcasting station may be divulged or used:

- ☐ if it is transmitted by an amateur station
- ☐ if transmitted by any station using the international Morse code
- ☐ if transmitted in English or French
- ☐ during peacetime civil emergencies

< if it is transmitted by an amateur station >

The operator of an amateur station:

- ☐ shall charge no less than \$10 for each message that the person transmits or receives
- ☐ shall charge no more than \$10 for each message that the person transmits or receives
- ☐ may accept a gift or gratuity in lieu of remuneration for any message that the person transmits or receives
- ☐ shall not demand or accept remuneration in any form, in respect of a radiocommunication that the person transmits or receives

< shall not demand or accept remuneration in any form, in respect of a radiocommunication that the person transmits or receives >

Which of the following is NOT an exception from the penalties under the Act, for divulging, intercepting or using information obtained through radiocommunication, other than broadcasting?

- ☐ Where it is for the purpose of preserving or protecting property, or for the prevention of harm to a person
- ☐ Where it is for the purpose of giving evidence in a criminal or civil proceeding in which persons are required to give evidence
- ☐ Where it is on behalf of Canada, for the purpose of international or national defence or security
- ☐ Where it is to provide information for a journalist

< Where it is to provide information for a journalist >

How often must an amateur station be identified?

- ☐ At least once during each transmission
- ☐ At the beginning and end of each transmission
- ☐ At least every thirty minutes, and at the beginning and at the end of a contact
- ☐ At the beginning of a contact and at least every thirty minutes after that

< At least every thirty minutes, and at the beginning and at the end of a contact >

What do you transmit to identify your amateur station?

- ☐ Your call sign
- ☐ Your “handle”
 - ☐ Your first name and your location
- ☐ Your full name

When may an amateur transmit unidentified communications?

- ☐ Only for two-way or third-party communications
- ☐ Never, except to control a model craft
- ☐ Only for brief tests not meant as messages
- ☐ Only if it does not interfere with others

< Never, except to control a model craft >

If a non-amateur friend is using your station to talk to someone in Canada, and a foreign station breaks in to talk to your friend, what should you do?

- ☐ Since you can talk to foreign amateurs, your friend may keep talking as long as you are the control operator
- ☐ Report the incident to the foreign amateur's government
- ☐ Stop all discussions and quickly sign off
- ☐ Have your friend wait until you determine from the foreign station if their administration permits third-party traffic

< Have your friend wait until you determine from the foreign station if their administration permits third-party traffic >

If you let an unqualified third party use your amateur station, what must you do at your station's control point?

- ☐ You must key the transmitter and make the station identification
- ☐ You must monitor and supervise the communication only if contacts are made on frequencies below 30 MHz
- ☐ You must monitor and supervise the communication only if contacts are made in countries which have no third party communications
- ☐ You must continuously monitor and supervise the third party's participation

Radio amateurs may use their stations to transmit international communications on behalf of a third party only if:

- ☐ prior remuneration has been received
 - ☐ such communications have been authorized by the countries concerned
- ☐ the amateur station has received written authorization from Industry Canada to pass third party traffic
- ☐ the communication is transmitted by secret code

< such communications have been authorized by the countries concerned >

A person operating a Canadian amateur station **is forbidden to communicate with amateur stations of another country:**

- ☐ when that country has notified the International Telecommunication Union that it objects to such communications
- ☐ without written permission from Industry Canada
- ☐ until he has properly identified his station
- ☐ unless he is passing third- party traffic

< when that country has notified the International Telecommunication Union that it objects to such communications >

Amateur third party communications is:

- ☐ a simultaneous communication between three operators
- ☐ none of these answers
- ☐ the transmission of non-commercial or personal messages to or on behalf of a third party
- ☐ the transmission of commercial or secret messages

< the transmission of non-commercial or personal messages to or on behalf of a third party >

Which of the following is **NOT** correct?
While operating in Canada, a radio amateur licensed by the Government of the United States, must:

- ☐ add to his call sign the Canadian call sign prefix for the geographic location of the station
- ☐ qualify his identification when operating phone by adding to the call sign the word “mobile” or “portable” or when Morse code by adding a slash “/”
- ☐ identify with the call sign assigned by the FCC
- ☐ obtain a Canadian amateur certificate before operating in Canada

<obtain a Canadian amateur certificate before operating in Canada

Which of the following statements
is **NOT** correct? A Canadian radio
amateur may, on amateur
frequencies:

- ☐ pass messages originating from or destined to the United States Military Auxiliary Radio System (MARS)
 - ☐ pass messages originating from or destined to the Canadian Forces Affiliate Radio Service (CFARS)
 - ☐ communicate with a similar station of a country which has not notified ITU that it objects to such communications
 - ☐ pass third-party traffic with all duly licensed amateur stations in any country which is a member of the ITU
- < pass third-party traffic with all duly licensed amateur stations in any country which is a member of the ITU>

If you let another amateur with additional qualifications than yours control your station, what operating privileges are allowed?

- ☐ All the emission privileges of the additional qualifications, but only the frequency privileges of your qualifications
- ☐ All the frequency privileges of the additional qualifications, but only the emission privileges of your qualifications
- ☐ Only the privileges allowed by your qualifications
- ☐ Any privileges allowed by the additional qualifications

<Only the privileges allowed by your qualifications>

If you are the control operator at the station of another amateur who has additional qualifications to yours, what operating privileges are you allowed?

- ☐ All the emission privileges of the additional qualifications, but only the frequency privileges of your qualifications
- ☐ All the frequency privileges of the additional qualifications, but only the emission privileges of your qualifications
- ☐ Only the privileges allowed by your qualifications
- ☐ Any privileges allowed by the additional qualifications

<Only the privileges allowed by your qualifications>

The holder of an amateur radio certificate may operate radio controlled models:

- ☐ if the frequency used is below 30 MHz
- ☐ if only pulse modulation is used
- ☐ on all frequencies above 30 MHz
- ☐ if the control transmitter does not exceed 15 kHz of occupied bandwidth

<on all frequencies above 30 MHz>

In Canada, radio amateurs may use
which of the following for radio
control of models:

- ☐ 50 to 54, 144 to 148, and 220 to 225 MHz only
- ☐ all amateur frequency bands above 30 MHz
- ☐ 50 to 54 MHz only
- ☐ all amateur frequency bands

< all amateur frequency bands above 30 MHz >

Single sideband is not permitted in the band:

- ☐ 18.068 to 18.168 MHz
- ☐ 24.89 to 24.99 MHz
- ☐ 7.0 to 7.3 MHz
- ☐ 10.1 to 10.15 MHz

<10.1 to 10.15 MHz>

What precaution must an amateur radio operator take when transmitting near band edges?

- ☐ Make sure that the emission mode is compatible with agreed band plans
- ☐ Watch the standing wave ratio so as not to damage the transmitter
- ☐ Ensure that the bandwidth required on either side of the carrier frequency does not fall out of band
- ☐ Restrict operation to telegraphy

<Ensure that the bandwidth required on either side of the carrier frequency does not fall out of band>

: Which of the following answers is NOT correct? Based on the bandwidth required, the following modes may be transmitted on these frequencies:

- ☐ AMTOR on 14.08 MHz
- ☐ 300 bps packet on 10.145 MHz
- ☐ fast-scan television (ATV) on 440 MHz
- ☐ fast-scan television (ATV) on 145 MHz

< fast-scan television (ATV) on 145 MHz >

Which of the following answers is
NOT correct? Based on the
bandwidth required, the following
modes may be transmitted on
these frequencies:

- ☐ frequency modulation (FM) on 29.6 MHz
- ☐ single-sideband (SSB) on 3.76 MHz
- ☐ fast-scan television (ATV) on 14.23 MHz
- ☐ slow-scan television (SSTV) on 14.23 MHz

< fast-scan television (ATV) on 14.23 MHz >

Which of the following answers is NOT correct? Based on the bandwidth required, the following modes may be transmitted on these frequencies?

- ☐ single-sideband (SSB) on 10.12 MHz
- ☐ frequency modulation (FM) on 29.6 MHz
- ☐ Morse radiotelegraphy (CW) on 10.11 MHz
- ☐ 300 bps packet on 10.148 MHz

<single-sideband (SSB) on 10.12 MHz>

What amount of transmitter power should radio amateurs use at all times?

- ☐ The minimum legal power necessary to communicate
- ☐ 25 watts PEP output
- ☐ 250 watts PEP output
- ☐ 2000 watts PEP output

The minimum legal power necessary to communicate

What is the most FM transmitter power a holder of only Basic Qualification may use on 147 MHz?

- ☐ 1000 watts DC input
- ☐ 200 watts PEP output
- ☐ 250 W DC input
- ☐ 25 watts PEP output

250 W DC input

Where in your station can you verify that legal power limits are respected?

- ☐ On the antenna itself, after the transmission line
- ☐ At the power supply terminals inside the transmitter or amplifier
- ☐ At the antenna connector of the transmitter or amplifier
- ☐ At the power amplifier RF input terminals inside the transmitter or amplifier

< At the antenna connector of the transmitter or amplifier >

What kind of amateur station automatically retransmits the signals of other stations?

- ☐ Remote-control station
- ☐ Beacon station
- ☐ Repeater station
- ☐ Space station control and telemetry link

< Repeater station >

An unmodulated carrier may be transmitted only:

- ☐ if the output to the final RF amplifier is kept under 5W
- ☐ when transmitting SSB
- ☐ in frequency bands below 30 MHz
- ☐ for brief tests on frequencies below 30 MHz

<for brief tests on frequencies below 30 MHz>

Radiotelephone signals in a frequency band below _____ MHz cannot be automatically retransmitted, unless these signals are received from a station operated by a person qualified to transmit on frequencies below the above frequency:

- ☐ 29.5 MHz
- ☐ 29.7 MHz
- ☐ 50 MHz
- ☐ 144 MHz

< 29.5 MHz >

Which of the following statements is NOT correct? Radiotelephone signals may be retransmitted:

☐ in the 21 MHz band, when received in a VHF band, from a station operated by a person with only Basic Qualification

☐ in the 29.5 - 29.7 MHz band, when received in a VHF band, from a station operated by a person with only Basic Qualifications

☐ in the 50 - 54 MHz frequency band, when received from a station operated by a person with only Basic Qualification

☐ in the 144 - 148 MHz frequency band, when received from a station operated by a person with only Basic Qualification

< in the 21 MHz band, when received in a

What type of messages may be transmitted to an amateur station in a foreign country?

- ☐ Messages of any type, if the foreign country allows third-party communications with Canada
- ☐ Messages that are not religious, political, or patriotic in nature
- ☐ Messages of any type
- ☐ Messages of a technical nature or personal remarks of relative unimportance

< Messages of a technical nature or personal remarks of relative unimportance >

The operator of an amateur station shall ensure that:

- ☐ all communications are conducted in secret code
- ☐ charges are properly applied to all third-party communications
- ☐ communications are limited to messages of a technical or personal nature
- ☐ communications are exchanged only with commercial stations

< communications are limited to messages of a technical or personal nature >

In addition to complying with the Radiocommunication Act and Regulations, Canadian radio amateurs must also comply with the regulations of the:

- ☐ International Amateur Radio Union
- ☐ International Telecommunication Union
- ☐ American Radio Relay League
- ☐ Radio Amateurs of Canada Inc.

< International Telecommunication Union >

A Canadian radio amateur,
operating his station 7 kilometres
(4 miles) offshore from the coast of
Florida, is subject to which
frequency band limits?

- ☐ ITU Region 1
- ☐ ITU Region 2
- ☐ Those applicable to US radio amateurs
- ☐ Those applicable to Canadian radio amateurs

<Those applicable to Canadian radio amateurs>

Which of these statements about installation or modification of an antenna structure is NOT correct?

- ☐ Prior to an installation, for which community concerns could be raised, radio amateurs may be required to consult with their land-use authority
- ☐ A radio amateur may erect any size antenna structure without consulting neighbours or the local land-use authority
- ☐ A radio amateur must follow Industry Canada's antenna siting procedures
- ☐ Industry Canada expects radio amateurs to address community concerns in a responsible manner

< A radio amateur may erect any size antenna structure without consulting neighbours or the local land-use authority >

Who has authority over antenna installations including antenna masts and towers?

- ☐ The local municipal government
- ☐ The majority of neighbours residing within a distance of three times the proposed antenna structure height
- ☐ The Minister of Industry
- ☐ The person planning to use the tower or their spouse

< The Minister of Industry >

If you are planning to install or modify an antenna system, under what conditions may you **NOT** be required to contact land use authorities to determine public consultation requirements?

- ☐ When transmitting will only be done at low power
- ☐ When an exclusion criterion defined by Industry Canada applies
- ☐ In a rural area
 - ☐ When the structure is part of an amateur radio antenna

< When an exclusion criterion defined by Industry Canada applies >

The land use authority has not established a process for public consultation for antenna systems. The radio amateur planning to install or modify an antenna system:

- ☐ must wait for the land use authority to develop a public consultation process
- ☐ must fulfill the public consultation requirements set out in Canada's Default Public Consultation Process unless the land use authority excludes their type of proposal from consultation or it is excluded by Industry Canada's process
- ☐ can proceed with their project without public consultation
- ☐ must implement a consultation process of their own design
- < must fulfill the public consultation requirements set out in Canada's Default Public Consultation Process unless the land use authority excludes their type of proposal from consultation or it is excluded by Industry Canada's process>

Which is **not** an element of the Industry Canada Public Consultation Process for antenna systems?

- ☐ Providing an opportunity for the public to respond regarding measures to address reasonable and relevant concerns
 - ☐ Participating in public meetings on the project
 - ☐ Providing written notice
- ☐ Addressing relevant questions, comments and concerns

< Participating in public meetings on the project >

The Default Public Consultation Process for antenna systems requires proponents to address:

- ☐ reasonable and relevant concerns provided in writing within the 30-day public comment period
- ☐ all questions, comments and concerns raised
- ☐ comments reported in media reporting on the proposal
- ☐ opposition to the project

< reasonable and relevant concerns provided in writing within the 30-day public comment period >

Where a municipality has developed a public consultation process, which of the following options best describes all circumstances when public consultation may not be required?

- ☐ Exclusions listed in both CPC-2-0-03 and the Local land use authority process
- ☐ Exclusions listed in either CPC-2-0-03 or the Local land use authority process
- ☐ Exclusions listed in the Industry Canada Client Procedures Circular on Radiocommunications and Broadcasting Antenna Systems CPC-2-0-03
- ☐ Exclusions defined in the Local land use authority process

< Exclusions listed in either CPC-2-0-03 or the Local land use authority process >

Where the proponent and a stakeholder other than the general public reach an impasse over a proposed antenna system the final decision will:

- ☐ be made by the municipality in which the antenna is built
- ☐ be made by a majority vote of those residing with a radius of three times the antenna structure height
- ☐ be made by Industry Canada
- ☐ be postponed until those in dispute reach an agreement

< be made by Industry Canada >

In general, what is the tallest amateur radio antenna system excluded from the requirements to consult with the land use authority and the public where there is a land use authority defined public consultation process?

- ☐ 15 m
- ☐ 21 m
- ☐ The taller of the height exclusion of the land use authority public consultation process and Industry Canada's antenna siting procedures
- ☐ 10 m

< The taller of the height exclusion of the land use authority public consultation process and Industry Canada's antenna siting procedures
>

Where a land use authority or municipality has established a public consultation process for antenna systems, who determines how public consultation should take place?

- ☐ The municipality or land use authority
- ☐ Industry Canada
- ☐ The person planning to erect the antenna structure
- ☐ The provincial government

< The municipality or land use authority >

In the event of the malfunctioning of a neighbour's broadcast FM receiver and stereo system, it will be deemed that the affected equipment's lack of immunity is the cause if the field strength:

- ☐ at the transmitting location is below the radio amateur's maximum allowable transmitter power
- ☐ at the transmitting location is above 100 watts
- ☐ near the affected equipment is above Industry Canada's specified immunity criteria
- ☐ on the premises of the affected equipment is below Industry Canada's specified immunity criteria

< on the premises of the affected equipment is below Industry Canada's specified immunity criteria >

In the event of interference to a neighbour's television receiver, according to EMCAB-2, it will be deemed that a radio amateur's transmission is the cause of the problem if the field strength:

- ☐ at the transmitting location is above the radio amateur's maximum allowable transmitter power
- ☐ on the neighbour's premises is above Industry Canada's specified immunity criteria
- ☐ near the TV is below Industry Canada's specified immunity criteria
- ☐ at the transmitting location is below the radio amateur's maximum allowable transmitter power

< on the neighbour's premises is above Industry Canada's specified immunity criteria >

Which of the following is defined in EMCAB-2 as “any device, machinery or equipment, other than radio apparatus, the use or functioning of which is, or can be, adversely affected by radiocommunication emissions”?

- ☐ Broadcast receivers
- ☐ Radio-sensitive equipment
- ☐ Cable television converters
- ☐ Audio and video recorders

Thank you for your patience and
good luck!

73 or 33 de
Helen VA1YL

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- 73 Best Regards
- 88 Men say to women
- 33 women say it to women
- HF
- VHF
- UHF
- Band Plans US vs Canadian
- Zone

Vocabulary

DX – distant station

WX – weather

Phone/sideband

CW/Morse Code

OM any male operator

YL any female operator

Elmer the person who helped you get going

SK – silent key – deceased ham

PTT push to talk

VOX sound keys mike

Shack – radio station

Q codes

Name

QRA – what is the name of your station – not used in phone

Power

QRP – decrease power, also low power

QRO – increase power – high power

Signal Strength & Quality

Think signal report: 5,9, or 5,9, 9

QRI – tone of my signal

QRK – intelligibility of signal

QSA – strength of signal

QSB – signals fading – very useful in phone!

Exchange of Communications

QRU – have you anything for me?

QRT – shall I stop sending? * also used for I am going off the air

QSK – Can you hear me between your transmissions

QSL – can you acknowledge receipt * also used for did you understand – and QSL cards

QSZ – shall I send each group/word twice?

QTA - Shall I cancel message number _____

QTC – How many telegrams have you to send

Location

QTH what is your location?

Frequency

QRG – what is the exact frequency

QRH – does my frequency vary?

QSV – shall I send a series of v's?

QSW – will you send on this frequency?

QSY – shall I change frequency?

Establishing Communication

QRL – are you busy

QRV – are you ready?

QRX – will you call me again (also used for stand by)

QRY – what is my turn?

QRZ – who is calling me?

QSO – can you communicate with? * also used to describe a contact

“ I had a QSO with VE1RSA”

QSP – will you relay to?

What's on the EXAM???

- IC – RIC-3 (Sctn. 2.1)
 - Basic Qualification Examination •
- Regulations & Policies (1-1 to 1-25)
- Operating & Procedures (2-1 to 2-9)
- Station Assembly, Practice & Safety (3-1 to 21)
- Circuit Components (4-1 to 4-6)
- Basic Electronics & Theory (5-1 to 5-13)
- Feedlines & Antenna Systems (6-1 to 6-13) •
- Radio Wave Propagation (7-1 to 7-8)
- Interference & Suppression (8-1 to 8-5)

There will be one question from each of the above 100 sections on the exam!