

2006 Technician Class License Question Pool

Released 6 February, 2006

35 Exam questions

**SUBELEMENT T1 FCC Rules, station license responsibilities - 4
exam questions 4 Groups**

**T1A - Basis and purpose of the Amateur Radio Service, penalties
for unlicensed operation, other penalties, examinations 1 exam
question**

T1A01 (A) [97.3(a)(1)]

Who is an amateur operator as defined in Part 97?

- A. A person named in an amateur operator/primary license grant in the FCC ULS database
- B. A person who has passed a written license examination
- C. The person named on the FCC Form 605 Application
- D. A person holding a Restricted Operating Permit

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T1A02 (B) [97.1]

What is one of the basic purposes of the Amateur Radio Service as defined in Part 97?

- A. To support teaching of amateur radio classes in schools
- B. To provide a voluntary noncommercial communications service to the public, particularly in times of emergency
- C. To provide free message service to the public
- D. To allow the public to communicate with other radio services

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T1A03 (C) [97.501]

What classes of US amateur radio licenses may currently be earned by examination?

- A. Novice, Technician, General, Advanced
- B. Technician, General, Advanced
- C. Technician, General, Extra
- D. Technician, Tech Plus, General

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T1A04 (C) [97.509(b)]

Who is a Volunteer Examiner?

- A. A certified instructor who volunteers to examine amateur teaching manuals
- B. An FCC employee who accredits volunteers to administer amateur license exams
- C. An amateur accredited by one or more VECs who volunteers to administer amateur license exams
- D. Any person who volunteers to examine amateur station equipment

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T1A05 (A) [97.505(a)(6)]

How long is a CSCE valid for license upgrade purposes?

- A. 365 days
- B. Until the current license expires
- C. Indefinitely
- D. Until two years following the expiration of the current license

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T1A06 (D) [97.509(a)(b)(3)(i)]

How many and what class of Volunteer Examiners are required to administer an Element 2 Technician written exam?

- A. Three Examiners holding any class of license
- B. Two Examiners holding any class of license
- C. Three Examiners holding a Technician Class license
- D. Three Examiners holding a General Class license or higher

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T1A07 (B) [97.5]

Who makes and enforces the rules for the Amateur Radio Service in the United States?

- A. The Congress of the United States
- B. The Federal Communications Commission
- C. The Volunteer Examiner Coordinators
- D. The Federal Bureau of Investigation

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T1A08 (D) [97.1]

What are two of the five fundamental purposes for the Amateur Radio Service?

- A. To protect historical radio data, and help the public understand radio history
- B. To aid foreign countries in improving radio communications and encourage visits from foreign hams
- C. To modernize radio electronic design theory and improve schematic drawings
- D. To increase the number of trained radio operators and electronics experts, and improve international goodwill

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T1A09 (D) [97.3(a)(5)]

What is the definition of an amateur radio station?

- A. A station in a public radio service used for radio communications
- B. A station using radio communications for a commercial purpose
- C. A station using equipment for training new broadcast operators and technicians
- D. A station in an Amateur Radio Service consisting of the apparatus necessary for carrying on radio communications

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T1A10 (B) [97.3(A)(23)]

What is a transmission called that disturbs other communications?

- A. Interrupted CW
- B. Harmful interference
- C. Transponder signals
- D. Unidentified transmissions

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T1B - ITU regions, international regulations, US call sign structure, special event calls, vanity call signs - 1 exam question

T1B01 (C) [97.3(a)(28)]

What is the ITU?

- A. The International Telecommunications Utility
- B. The International Telephone Union
- C. The International Telecommunication Union
- D. The International Technology Union

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T1B02 (A) [97.301]

What is the purpose of ITU Regions?

- A. They are used to assist in the management of frequency allocations
- B. They are useful when operating maritime mobile
- C. They are used in call sign assignments
- D. They must be used after your call sign to indicate your location

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T1B03 (C) [97.17(d)]

What system does the FCC use to select new amateur radio call signs?

- A. Call signs are assigned in random order
- B. The applicant is allowed to pick a call sign
- C. Call signs are assigned in sequential order
- D. Volunteer Examiners choose an unassigned call sign

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T1B04 (A) [97.19(d)]

What FCC call sign program might you use to obtain a call sign containing your initials?

- A. The vanity call sign program
- B. The sequential call sign program
- C. The special event call sign program
- D. There is no FCC provision for choosing a your call sign

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T1B05 (B) [97.17(b)(2)]

How might an amateur radio club obtain a club station call sign?

- A. By applying directly to the FCC in Gettysburg, PA
- B. By applying through a Club Station Call Sign Administrator
- C. By submitting a FCC Form 605 to the FCC in Washington, DC
- D. By notifying a VE team using NCVEC Form 605

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T1B06 (C)

Who is eligible to apply for temporary use of a 1-by-1 format Special Event call sign?

- A. Only Amateur Extra class amateurs
- B. Only military stations
- C. Any FCC-licensed amateur
- D. Only trustees of amateur radio club stations

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T1B07 (A) [97.107]

When are you allowed to operate your amateur station in a foreign country?

- A. When there is a reciprocal operating agreement between the countries
- B. When there is a mutual agreement allowing third party communications
- C. When authorization permits amateur communications in a foreign language
- D. When you are communicating with non-licensed individuals in another country

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T1B08 (C)

Which of the following call signs is a valid US amateur call?

- A. UZ4FWD
- B. KBL7766
- C. KB3TMJ
- D. VE3TWJ

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T1B09 (B)

What letters must be used for the first letter in US amateur call signs?

- A. K, N, U and W
 - B. A, K, N and W
 - C. A, B, C and D
 - D. A, N, V and W
- ~~

T1B10 (D)

What numbers are used in US amateur call signs?

- A. Any two-digit number, 10 through 99
 - B. Any two-digit number, 22 through 45
 - C. A single digit, 1 through 9
 - D. A single digit, 0 through 9
- ~~

T1C Authorized frequencies (Technician), reciprocal licensing, operation near band edges, spectrum sharing 1 exam question

T1C01 (C) [97.5(a)]

What is required before you can control an amateur station in the US?

- A. You must hold an FCC restricted operator's permit for a licensed radio station
- B. You must submit an FCC Form 605 with a license examination fee
- C. You must be named in the FCC amateur license database, or be an alien with reciprocal operating authorization
- D. The FCC must issue you a Certificate of Successful Completion of Amateur Training

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T1C02 (B) [97.5(a)]

Where does a US amateur license allow you to transmit?

- A. From anywhere in the world
- B. From wherever the Amateur Radio Service is regulated by the FCC or where reciprocal agreements are in place
- C. From a country that shares a third party agreement with the US
- D. Only from the mailing address printed on your license

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T1C03 (B) [97.111]

Under what conditions are amateur stations allowed to communicate with stations operating in other radio services?

- A. When other radio services make contact with amateur stations
- B. When authorized by the FCC
- C. When communicating with stations in the Family Radio Service
- D. When commercial broadcast stations are off the air

~~

T1C04 (B) [97.301(a)]

Which frequency is within the 6-meter band?

- A. 49.00 MHz
- B. 52.525 MHz
- C. 28.50 MHz
- D. 222.15 MHz

~~

T1C05 (A) [97.301(a)]

Which amateur band are you using when transmitting on 146.52 MHz?

- A. 2 meter band
- B. 20 meter band
- C. 14 meter band
- D. 6 meter band

~~

T1C06 (C) [97.301(a)]

Which 70-centimeter frequency is authorized to a Technician class license holder operating in ITU Region 2?

- A. 455.350 MHz
- B. 146.520 MHz
- C. 443.350 MHz
- D. 222.520 MHz

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T1C07 (B) [97.301(a)]

Which 23 centimeter frequency is authorized to a Technician class license holder operating in ITU Region 2?

- A. 2315 MHz
- B. 1296 MHz
- C. 3390 MHz
- D. 146.52 MHz

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T1C08 (D) [97.301(a)]

What amateur band are you using if you are operating on 223.50 MHz?

- A. 15 meter band
- B. 10 meter band
- C. 2 meter band
- D. 1.25 meter band

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T1C09 (C) [97.303]

What do the FCC rules mean when an amateur frequency band is said to be available on a secondary basis?

- A. Secondary users of a frequency have equal rights to operate
- B. Amateurs are only allowed to use the frequency at night
- C. Amateurs may not cause harmful interference to primary users
- D. Secondary users are not allowed on amateur bands

~~

T1C10 (D) [97.111]

When may a US amateur operator communicate with an amateur in a foreign country?

- A. Only when a third-party agreement exists between the US and the foreign country
- B. At any time except between 146.52 and 146.58 MHz
- C. Only when a foreign amateur uses English
- D. At any time unless prohibited by either government

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T1C11 (D) [97.113(a)(5)]

Which of the following types of communications are not permitted in the Amateur Radio Service?

- A. Brief transmissions to make adjustments to the station
- B. Brief transmissions to establish two-way communications with other stations
- C. Transmissions to assist persons learning or improving proficiency in CW
- D. Communications on a regular basis that could reasonably be furnished alternatively through other radio services

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**T1D - The station license, correct name and address on file,
license term, renewals, grace period 1 exam question**

T1D01 (B) [97.17(a)]

Which of the following services are issued an operator station license by the FCC?

- A. Family Radio Service
- B. Amateur Radio Service
- C. General Radiotelephone Service
- D. The Citizens Radio Service

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T1D02 (A) [97.5(b)(1)]

Who can become an amateur licensee in the US?

- A. Anyone except a representative of a foreign government
- B. Only a citizen of the United States
- C. Anyone except an employee of the US government
- D. Anyone

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T1D03 (D) [97.5(b)(1)]

What is the minimum age required to hold an amateur license?

- A. 14 years or older
- B. 18 years or older
- C. 70 years or younger
- D. There is no minimum age requirement

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T1D04 (D) [97.5(a)]

What government agency grants your amateur radio license?

- A. The Department of Defense
- B. The Bureau of Public Communications
- C. The Department of Commerce
- D. The Federal Communications Commission

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T1D05 (C) [97.5(a)]

How soon may you transmit after passing the required examination elements for your first amateur radio license?

- A. Immediately
 - B. 30 days after the test date
 - C. As soon as your license grant appears in the FCC's ULS database
 - D. As soon as you receive your license in the mail from the FCC
- ~~

T1D06 (C) [97.25(a)]

What is the normal term for an amateur station license grant?

- A. 5 years
 - B. 7 years
 - C. 10 years
 - D. For the lifetime of the licensee
- ~~

T1D07 (A) [97.21(b)]

What is the grace period during which the FCC will renew an expired 10-year license without re-examination?

- A. 2 years
 - B. 5 years
 - C. 10 years
 - D. There is no grace period
- ~~

T1D08 (D) [97.103(a)]

What is your responsibility as a station licensee?

- A. You must allow another amateur to operate your station upon request
 - B. You must be present whenever the station is operated
 - C. You must notify the FCC if another amateur acts as the control operator
 - D. Your station must be operated in accordance with the FCC rules
- ~~

T1D09 (A) [97.23]

When may the FCC revoke or suspend a license if the mailing address of the holder is not current with the FCC?

- A. If mail is returned to the FCC as undeliverable
- B. When the licensee transmits without having updated the address
- C. When the licensee operates portable at a different address
- D. If the address is not updated within the 2 year grace period

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T1D10 (B) [97.23]

The FCC requires which address to be kept up to date on the Universal Licensing System database?

- A. The station location address
- B. The station licensee mailing address
- C. The station location address and mailing address
- D. The station transmitting location address

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T1D11 (A) [97.21(b)]

When are you permitted to continue to transmit if you forget to renew your amateur license and it expires?

- A. Transmitting is not allowed until the license is renewed and appears on the FCC ULS database
- B. When you identify using the suffix EXP
- C. When you notify the FCC you intend to renew within 90 days
- D. Transmitting is allowed any time during the 2-year grace period

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T1D12 (A) [97.23]

Why must an Amateur radio operator have a correct name and mailing address on file with the FCC?

- A. To receive mail delivery from the FCC by the United States Postal Service
- B. So the FCC Field office can contact the licensee
- C. It isn't required when you haven't operated your station in a year
- D. So the FCC can locate your transmitting location

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SUBELEMENT T2 - Control operator duties 4 exam questions 4 groups

T2A - Prohibited communications: music, broadcasting, codes and ciphers, business use, permissible communications, bulletins, code practice, incidental music 1 exam question

T2A01 (A) [97.113(b)]

When is an amateur station authorized to transmit information to the general public?

- A. Never
- B. Only when the operator is being paid
- C. Only when the transmission lasts more than 10 minutes
- D. Only when the transmission lasts longer than 15 minutes

~~

T2A02 (A) [97.113(a)(4), 97.113(e)] Ignore this question. It has been withdrawn

When is an amateur station authorized to transmit music?

- A. Amateurs may not transmit music, except as incidental to an authorized rebroadcast of space shuttle communications
- B. Only when the music produces no spurious emissions
- C. Only to interfere with an illegal transmission
- D. Only when the music is above 1280 MHz

~~

T2A03 (C) [97.113(a)(4), 97.211(b), 97.217]

When is the transmission of codes or ciphers allowed to hide the meaning of a message transmitted by an amateur station?

- A. Only during contests
- B. Only when operating mobile
- C. Only when transmitting control commands to space stations or radio control craft
- D. Only when frequencies above 1280 MHz are used

~~

T2A04 (A) [97.113(a)(4)]

When may an amateur station transmit false or deceptive signals?

- A. Never
- B. When operating a beacon transmitter in a "fox hunt" exercise
- C. Only when making unidentified transmissions
- D. When needed to hide the meaning of a message for secrecy

~~

T2A05 (C) [97.119(b)]

When may an amateur station transmit unidentified communications?

- A. Only during brief tests not meant as messages
- B. Only when they do not interfere with others
- C. Only when sent from a space station or to control a model craft
- D. Only during two-way or third party communications

~~

T2A06 (A) [97.3(a)(10)]

What does the term broadcasting mean?

- A. Transmissions intended for reception by the general public, either direct or relayed
- B. Retransmission by automatic means of programs or signals from non-amateur stations
- C. One-way radio communications, regardless of purpose or content
- D. One-way or two-way radio communications between two or more stations

~~

T2A07 (C) [97.113(a)(4)]

Which of the following are specifically prohibited in the Amateur Radio Service?

- A. Discussion of politics
- B. Discussion of programs on broadcast stations
- C. Indecent and obscene language
- D. Morse code practice

~~

T2A08 (B) [97.3(a)(10), 97.113(b)]

Which of the following one-way communications may not be transmitted in the Amateur Radio Service?

- A. Telecommand of model craft
- B. Broadcasts intended for reception by the general public
- C. Brief transmissions to make adjustments to the station
- D. Morse code practice

~~

T2A09 (C) [97.113(2)]

When does the FCC allow an amateur radio station to be used as a method of communication for hire or material compensation?

- A. Only when making test transmissions
- B. Only when news is being broadcast in times of emergency
- C. Only when in accordance with part 97 rules
- D. Only when your employer is using amateur radio to broadcast advertising

~~

T2A10 (B) [97.113(a)(3),(a)5(e)]

What type of communications are prohibited when using a repeater autopatch?

- A. Calls to a recorded weather report
- B. Calls to your employer requesting directions to a customer's office
- C. Calls to the police reporting a traffic accident
- D. Calls to a public utility reporting an outage of your telephone

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T2A11 (C) [97.113(a)3]

When may you use your station to tell people about equipment you have for sale?

- A. Never
- B. When you are conducting an on-line auction
- C. When you are offering amateur radio equipment for sale or trade on an occasional basis
- D. When you are helping a recognized charity

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T2B - Basic identification requirements, repeater ID standards, identification for non-voice modes, identification requirements for mobile and portable operation 1 exam question

T2B01 (B) [97.119(a)]

What must you transmit to identify your amateur station?

- A. Your tactical ID
- B. Your call sign
- C. Your first name and your location
- D. Your full name

~~

T2B02 (A) [97.119(a)]

What is a transmission called that does not contain a station identification?

- A. Unidentified communications or signals
- B. Reluctance modulation
- C. Test emission
- D. Intentional interference

~~

T2B03 (B) [97.119(a)]

How often must an amateur station transmit the assigned call sign?

- A. At the beginning of each transmission and every 10 minutes during communication
- B. Every 10 minutes during communications and at the end of each communication
- C. At the end of each transmission
- D. Only at the end of the communication

~~

T2B04 (D) [97.119(b)]

What is an acceptable method of transmitting a repeater station identification?

- A. By phone using the English language
- B. By video image conforming to applicable standards
- C. By Morse code at a speed not to exceed 20 words per minute
- D. All of these answers are correct.

~~

T2B05 (C) [97.119(a)]

What identification is required when two amateur stations end communications?

- A. No identification is required
- B. One of the stations must transmit both stations' call signs
- C. Each station must transmit its own call sign
- D. Both stations must transmit both call signs

~~

T2B06 (B) [97.119(a)]

What is the longest period of time an amateur station can operate without transmitting its call sign?

- A. 5 minutes
- B. 10 minutes
- C. 15 minutes
- D. 30 minutes

~~

T2B07 (C) [97.119(b)(2)]

What is a permissible way to identify your station when you are speaking to another amateur operator using a language other than English?

- A. You must identify using the official version of the foreign language
- B. Identification is not required when using other languages
- C. You must identify using the English language
- D. You must identify using phonetics

~~

T2B08 (D) [97.119(d)]

How often must you identify using your assigned call sign when operating while using a special event call sign?

- A. Every 10 minutes
- B. Once when the event begins and once when it concludes
- C. Never
- D. Once per hour

~~

T2B09 (A) [97.119(c)]

What is required when using one or more self-assigned indicators with your assigned call sign?

- A. The indicator must not conflict with an indicator specified by FCC rules or with a prefix assigned to another country
- B. The indicator must consist only of numeric digits
- C. The indicator must include the 2-letter abbreviation for your state
- D. The indicator must be separated from your call sign by a double slash mark

~~

T2B10 (B) [97.119(e)]

What is the correct way to identify when visiting a station if you hold a higher class license than that of the station licensee and you are using a frequency not authorized to his class of license?

- A. Send your call sign first, followed by his call sign
- B. Send his call sign first, followed by your call sign
- C. Send your call sign only, his is not required
- D. Send his call sign followed by "/KT"

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T2B11 (A) [97.119(f)(2)]

When exercising the operating privileges earned by examination upgrade of a license what is meant by use of the indicator "/AG"?

- A. Authorized General
- B. Adjunct General
- C. Address as General
- D. Automatically General

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T2C Definition of control operator, location of control operator, automatic and remote control, auxiliary stations 1 exam question

T2C01 (B) [97.7]

What must every amateur station have when transmitting?

- A. A frequency-measuring device
- B. A control operator
- C. A beacon transmitter
- D. A third party operator

~~

T2C02 (C) [97.5(b)(1)]

How many amateur operator / primary station licenses may be held by one person?

- A. As many as desired
- B. One for each portable transmitter
- C. Only one
- D. One for each station location

~~

T2C03 (B) [97.205(a)]

What minimum class of amateur license must you hold to be a control operator of a repeater station?

- A. Technician Plus
- B. Technician
- C. General
- D. Amateur Extra

~~

T2C04 (D) [97.3(a)(12)]

Who is responsible for the transmissions from an amateur station?

- A. Auxiliary operator
- B. Operations coordinator
- C. Third-party operator
- D. Control operator

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T2C05 (C) [97.7]

When must an amateur station have a control operator?

- A. Only when training another amateur
- B. Whenever the station receiver is operated
- C. Whenever the station is transmitting
- D. A control operator is not needed

~~

T2C06 (D) [97.3]

What is the control point of an amateur station?

- A. The on/off switch of the transmitter
- B. The input/output port of a packet controller
- C. The variable frequency oscillator of a transmitter
- D. The location at which the control operator function is performed

~~

T2C07 (C) [97.109(d)]

What type of amateur station does not require a control operator to be at the control point?

- A. A locally controlled station
- B. A remotely controlled station
- C. An automatically controlled station
- D. An earth station controlling a space station

~~

T2C08 (A) [97.3(a)]

What are the three types of station control permitted and recognized by FCC rule?

- A. Local, remote and automatic control
- B. Local, distant and automatic control
- C. Remote, distant and unauthorized control
- D. All of the choices are correct

~~

T2C09 (C) [97.3(a)]

What type of control is being used on a repeater when the control operator is not present?

- A. Local control
- B. Remote control
- C. Automatic control
- D. Uncontrolled

~~

T2C10 (D) [97.109(a)]

What type of control is being used when transmitting using a handheld radio?

- A. Radio control
- B. Unattended control
- C. Automatic control
- D. Local control

~~

T2C11 (B) [97.3]

What type of control is used when the control operator is not at the station location but can still make changes to a transmitter?

- A. Local control
- B. Remote control
- C. Automatic control
- D. Uncontrolled

~~

T2C12 (C) [97.3(a)(13)]

What is the definition of a control operator of an amateur station?

- A. Anyone who operates the controls of the station
- B. Anyone who is responsible for the station's equipment
- C. An operator designated by the licensee to be responsible for the station's transmissions to assure compliance with FCC rules
- D. The operator with the highest class of license who is in control of the station

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T2D - Operating another person's station, guest operators at your station, third party communications, autopatch, incidental business use, compensation of operators, club stations, station security, station inspection, protection against unauthorized transmissions 1 exam question

T2D01 (A) [97.103(a)]

Who is responsible for proper operation if you transmit from another amateur's station?

- A. Both of you
- B. Only the other station licensee
- C. Only you as the control operator
- D. Only the station licensee, unless the station records shows another control operator at the time

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T2D02 (A) [97.105(b)]

What operating privileges are allowed when another amateur holding a higher class license is controlling your station?

- A. All privileges allowed by the higher class license
- B. Only the privileges allowed by your license
- C. All the emission privileges of the higher class license, but only the frequency privileges of your license
- D. All the frequency privileges of the higher class license, but only the emission privileges of your license

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T2D03 (B) [97.105(b)]

What operating privileges are allowed when you are the control operator at the station of another amateur who has a higher class license than yours?

- A. Any privileges allowed by the higher class license
- B. Only the privileges allowed by your license
- C. All the emission privileges of the higher class license, but only the frequency privileges of your license
- D. All the frequency privileges of the higher class license, but only the emission privileges of your license

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T2D04 (B) [97.113(a)(3)]

Which of the following is a prohibited amateur radio transmission?

- A. Using amateur radio to seek emergency assistance
- B. Using amateur radio for conducting business
- C. Using an amateur phone patch to call for a taxi or food delivery
- D. Using an amateur phone patch to call home to say you are running late

~~

T2D05 (A) [97.3(a)46]

What is the definition of third-party communications?

- A. A message sent between two amateur stations for someone else
- B. Public service communications for a political party
- C. Any messages sent by amateur stations
- D. A three-minute transmission to another amateur

~~

T2D06 (B) [97.5(b)(2)]

How many persons are required to be members of a club for a club station license to be issued by the FCC?

- A. At least 5
- B. At least 4
- C. A trustee and 2 officers
- D. At least 2

~~

T2D07 (C) [97.11(a)]

When may you operate your amateur station aboard an aircraft?

- A. At any time
- B. Only while the aircraft is on the ground
- C. Only with the approval of the pilot in command and not using the aircraft's radio equipment
- D. Only when you have written permission from the airline and only using the aircraft's radio equipment

~~

T2D08 (B) [97.103(c)]

When is the FCC allowed to inspect your station equipment and station records?

- A. Only on weekends
- B. At any time upon request
- C. Never
- D. Only during daylight hours

~~

T2D09 (A)

How might you best keep unauthorized persons from using your amateur station?

- A. Disconnect the power and microphone cables when not using your equipment
- B. Connect a dummy load to the antenna
- C. Put a "Danger - High Voltage" sign in the station
- D. Put fuses in the main power line

~~

T2D10 (B) [97.109(b)]

Why are unlicensed persons in your family not allowed to transmit on your amateur station if you are not there?

- A. They must not use your equipment without your permission
- B. They must be licensed before they are allowed to be control operators
- C. They must know how to use proper procedures and Q signals
- D. They must know the right frequencies and emissions for transmitting

~~

T2D11 (D) [97.113(d)]

When is it permissible for the control operator of a club station to accept compensation for sending information bulletins or Morse code practice?

- A. When compensation is paid from a non-profit organization
- B. When the club station license is held by a non-profit organization
- C. Anytime compensation is needed
- D. When the station makes those transmissions for at least 40 hours per week

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SUBELEMENT T3 Operating practices 4 exam questions 4 groups

T3A - Choosing an operating frequency, calling CQ, calling another station, test transmissions 1 exam question

T3A01 (B)

Which of the following should you do when selecting a frequency on which to transmit?

- A. Call CQ to see if anyone is listening
- B. Listen to determine if the frequency is busy
- C. Transmit on a frequency that allows your signals to be heard
- D. Check for maximum power output

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T3A02 (B)

How do you call another station on a repeater if you know the station's call sign?

- A. Say "break, break" then say the station's call sign
- B. Say the station's call sign then identify your own station
- C. Say "CQ" three times then the other station's call sign
- D. Wait for the station to call "CQ" then answer it

~~

T3A03 (A)

How do you indicate you are looking for any station with which to make contact?

- A. CQ followed by your callsign
- B. RST followed by your callsign
- C. QST followed by your callsign
- D. SK followed by your callsign

~~

T3A04 (C)

What should you transmit when responding to a call of CQ?

- A. Your own CQ followed by the other station's callsign
- B. Your callsign followed by the other station's callsign
- C. The other station's callsign followed by your callsign
- D. A signal report followed by your callsign

~~

T3A05 (C) [97.119(a)]

What term describes a brief test transmission that does not include any station identification?

- A. A test emission with no identification required
- B. An illegal un-modulated transmission
- C. An illegal unidentified transmission
- D. A non-voice ID transmission

~~

T3A06 (A)

What must an amateur do when making a transmission to test equipment or antennas?

- A. Properly identify the station
- B. Make test transmissions only after 10:00 PM local time
- C. Notify the FCC of the test transmission
- D. State the purpose of the test during the test procedure

~~

T3A07 (D)

Which of the following is true when making a test transmission?

- A. Station identification is not required if the transmission is less than 15 seconds
- B. Station identification is not required if the transmission is less than 1 watt
- C. Station identification is required only if your station can be heard
- D. Station identification is required at least every ten minutes and at the end of every transmission.

~~

T3A08 (D)

What is the meaning of the procedural signal "CQ"?

- A. Call on the quarter hour
- B. New antenna is being tested (no station should answer)
- C. Only the called station should transmit
- D. Calling any station

~~

T3A09 (A) [97.119(b)(2)]

Why should you avoid using cute phrases or word combinations to identify your station?

- A. They are not easily understood by some operators
- B. They might offend some operators
- C. They do not meet FCC identification requirements
- D. They might be interpreted as codes or ciphers intended to obscure your identification

~~

T3A10 (B)

What brief statement is often used in place of "CQ" to indicate that you are listening for calls on a repeater?

- A. Say "Hello test" followed by your call sign
- B. Say your call sign
- C. Say the repeater call sign followed by your call sign
- D. Say the letters "QSY" followed by your call sign

~~

T3A11 (A) [97.119(b)(2)]

Why should you use the International Telecommunication Union (ITU) phonetic alphabet when identifying your station?

- A. The words are internationally recognized substitutes for letters
- B. There is no advantage
- C. The words have been chosen to represent amateur radio terms
- D. It preserves traditions begun in the early days of amateur radio

~~

**T3B - Use of minimum power, band plans, repeater coordination,
mode restricted sub-bands 1 exam question**

T3B01 (A)

What is a band plan?

- A. A voluntary guideline, beyond the divisions established by the FCC for using different operating modes within an amateur band
- B. A guideline from the FCC for making amateur frequency band allocations
- C. A guideline for operating schedules within an amateur band published by the FCC
- D. A plan devised by a local group

~~

T3B02 (C)

Which of the following statements is true of band plans?

- A. They are mandated by the FCC to regulate spectrum use
- B. They are mandated by the ITU
- C. They are voluntary guidelines for efficient use of the radio spectrum
- D. They are mandatory only in the US

~~

T3B03 (C)

Who developed the band plans used by amateur radio operators?

- A. The US Congress
- B. The FCC
- C. The amateur community
- D. The Interstate Commerce Commission

~~

T3B04 (C)

Who is in charge of the repeater frequency band plan in your local area?

- A. The local FCC field office
- B. RACES and FEMA
- C. The recognized frequency coordination body
- D. Repeater Council of America

~~

T3B05 (A)

What is the main purpose of repeater coordination?

- A. To reduce interference and promote proper use of spectrum
- B. To coordinate as many repeaters as possible in a small area
- C. To coordinate all possible frequencies available for repeater use
- D. To promote and encourage use of simplex frequencies

~~

T3B06 (C) [97.205(g)]

Who is accountable if a repeater station inadvertently retransmits communications that violate FCC rules?

- A. The repeater trustee
- B. The repeater control operator
- C. The transmitting station
- D. All of these answers are correct

~~

T3B07 (D) [97.313(a)]

Which of these statements is true about legal power levels on the amateur bands?

- A. Always use the maximum power allowed to ensure that you complete the contact
- B. An amateur may use no more than 200 Watts PEP to make an amateur contact
- C. An amateur may use up to 1500 Watts PEP on any amateur frequency
- D. An amateur must use the minimum transmitter power necessary to carry out the desired communication

~~

T3B08 (C) [97.305(c)]

Which of the bands available to Technician class licensees have mode restricted sub-bands?

- A. The 6-meter, 2-meter, and 70-centimeter bands
- B. The 2-meter and 13-centimeter bands
- C. The 6-meter, 2-meter, and 1 1/4-meter bands
- D. The 2-meter and 70-centimeter bands

~~

T3B09 (A) [97.305 (a)(c)]

What emission modes are permitted in the restricted sub-band at 50.0-50.1 MHz?

- A. CW only
- B. CW and RTTY
- C. SSB only
- D. CW and SSB

~~

T3B10 (A) [97.305 (a)(c)]

What emission modes are permitted in the restricted sub-band at 144.0-144.1 MHz?

- A. CW only
- B. CW and RTTY
- C. SSB only
- D. CW and SSB

~~

**T3C - Courtesy and respect for others, sensitive subject areas,
obscene and indecent language 1 exam question**

T3C01 (A)

What is the proper way to break into a conversation between two stations that are using the frequency?

- A. Say your call sign between their transmissions
- B. Wait for them to finish and then call CQ
- C. Say "Break-break" between their transmissions
- D. Call one of the operators on the telephone to interrupt the conversation

~~

T3C02 (D)

What is considered to be proper repeater operating practice?

- A. Monitor before transmitting and keep transmissions short
- B. Identify legally
- C. Use the minimum amount of transmitter power necessary
- D. All of these answers are correct

~~

T3C03 (A)

What should you do before responding to another stations call?

- A. Make sure you are operating on a permissible frequency for your license class
- B. Adjust your transmitter for maximum power output
- C. Ask the station to send their signal report and location
- D. Verify the other station's license class

~~

T3C04 (C) [97.101(b)]

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

- A. The station operator with a lesser class of license must yield the frequency to a higher-class licensee
- B. The station operator with a lower power output must yield the frequency to the station with a higher power output
- C. No frequency will be assigned for the exclusive use of any station and neither has priority
- D. Station operators in ITU Regions 1 and 3 must yield the frequency to stations in ITU Region 2

~~

T3C05 (D) [97.113(a)(4)]

Why is indecent and obscene language prohibited in the Amateur Service?

- A. Because it is offensive to some individuals
- B. Because young children may intercept amateur communications with readily available receiving equipment
- C. Because such language is specifically prohibited by FCC Rules
- D. All of these choices are correct

~~

T3C06 (B)

Why should amateur radio operators avoid the use of racial or ethnic slurs when talking to other stations?

- A. Such language is prohibited by the FCC
- B. It is offensive to some people and reflects a poor public image on all amateur radio operators
- C. Some of the terms used may be unfamiliar to other operators
- D. Your transmissions might be recorded for use in court

~~

T3C07 (C)

What should you do if you hear a newly licensed operator that is having trouble with their station?

- A. Tell them to get off the air until they learn how operate properly
- B. Report them to the FCC
- C. Contact them and offer to help with the problem
- D. Move to another frequency

~~

T3C08 (B) [97.113(a)(4)]

Where can an official list be found of prohibited obscene and indecent words that should not be used in amateur radio?

- A. On the FCC web site
- B. There is no official list of prohibited obscene and indecent words
- C. On the Department of Commerce web site
- D. The official list is in public domain and found in all amateur study guides

~~

T3C09 (D) [97.113(a)(4)]

What type of subjects are not prohibited communications while using amateur radio?

- A. Political discussions
- B. Jokes and stories
- C. Religious preferences
- D. All of these answers are correct

~~

T3C10 (C) [97.101 (a)]

When circumstances are not specifically covered by FCC rules, what general operating standard must be applied to amateur station operation?

- A. Designated operator control
- B. Politically correct control
- C. Good engineering and amateur practices
- D. Reasonable operator control

~~

T3D - Interference to and from consumer devices, public relations, intentional and unintentional interference - 1 exam question

T3D01 (D)

What should you do if you receive a report that your transmissions are causing splatter or interference on nearby frequencies?

- A. Increase transmit power
- B. Change mode of transmission
- C. Report the interference to the equipment manufacturer
- D. Check transmitter for off frequency operation or spurious emissions

~~

T3D02 (D)

Who is responsible for taking care of the interference if signals from your transmitter are causing front end overload in your neighbor's television receiver?

- A. You alone are responsible, since your transmitter is causing the problem
- B. Both you and the owner of the television receiver share the responsibility
- C. The FCC must decide if you or the owner of the television receiver is responsible
- D. The owner of the television receiver is responsible

~~

T3D03 (C)

What is the major cause of telephone interference?

- A. The telephone wiring is inadequate
- B. Tropospheric ducting at UHF frequencies
- C. The telephone was not equipped with adequate interference protection when manufactured.
- D. Improper location of the telephone in the home

~~

T3D04 (B)

What is the proper course of action if you unintentionally interfere with another station?

- A. Rotate your antenna slightly
- B. Properly identify your station and move to a different frequency
- C. Increase power
- D. Change antenna polarization

~~

T3D05(C) [97.101(d)]

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

- A. Only if the station is operating illegally
- B. Only if the station begins transmitting on a frequency you are using
- C. Never
- D. You may cause deliberate interference because it can't be helped during crowded band conditions

~~

T3D06 (D)

Who has exclusive use of a specific frequency when the FCC has not declared a communication emergency?

- A. Any net station that has traffic
- B. The station first occupying the frequency
- C. Individuals passing health and welfare communications
- D. No station has exclusive use of any frequency

~~

T3D07 (C)

What effect might a break in a cable television transmission line have on amateur communications?

- A. A break cannot affect amateur communications
- B. Harmonic radiation from the TV may cause the amateur transmitter to transmit off-frequency
- C. TV interference may result when the amateur station is transmitting, or interference may occur to the amateur receiver
- D. The broken cable may pick up very high voltages when the amateur station is transmitting

~~

T3D08 (C)

What is the best way to reduce on the air interference when testing your transmitter?

- A. Use a short indoor antenna when testing
- B. Use upper side band when testing
- C. Use a dummy load when testing
- D. Use a simplex frequency instead of a repeater frequency

~~

T3D09 (C) [97.103(a)]

What rules apply to your station when using amateur radio at the request of public service officials or at the scene of an emergency?

- A. RACES
- B. ARES
- C. FCC
- D. FEMA

~~

T3D10 (D)

What do RACES and ARES have in common?

- A. They represent the two largest ham clubs in the United States
- B. One handles road traffic, the other weather traffic
- C. Neither may handle emergency traffic
- D. Both organizations provide communications during emergencies

~~

T3D11 (C)

What is meant by receiver front-end overload?

- A. Too much voltage from the power supply
- B. Too much current from the power supply
- C. Interference caused by strong signals from a nearby source
- D. Interference caused by turning the volume up too high

~~

SUBELEMENT T4 Radio and electronic fundamentals 5 exam questions 5 groups

T4A Names of electrical units, DC and AC, what is a radio signal, conductors and insulators, electrical components - 1 exam question

T4A01 (D)

Electrical current is measured in which of the following units?

- A. Volts
- B. Watts
- C. Ohms
- D. Amperes

~~

T4A02 (B)

Electrical Power is measured in which of the following units?

- A. Volts
- B. Watts
- C. Ohms
- D. Amperes

~~

T4A03 (D)

What is the name for the flow of electrons in an electric circuit?

- A. Voltage
- B. Resistance
- C. Capacitance
- D. Current

~~

T4A04 (B)

What is the name of a current that flows only in one direction?

- A. An alternating current
- B. A direct current
- C. A normal current
- D. A smooth current

~~

T4A05 (B)

What is the standard unit of frequency?

- A. The megacycle
- B. The Hertz
- C. One thousand cycles per second
- D. The electromagnetic force

~~

T4A06 (A)

How much voltage does an automobile battery usually supply?

- A. About 12 volts
- B. About 30 volts
- C. About 120 volts
- D. About 240 volts

~~

T4A07 (D)

What is the basic unit of resistance?

- A. The volt
- B. The watt
- C. The ampere
- D. The ohm

~~

T4A08 (A)

What is the name of a current that reverses direction on a regular basis?

- A. An alternating current
- B. A direct current
- C. A circular current
- D. A vertical current

~~

T4A09 (C)

Which of the following is a good electrical conductor?

- A. Glass
- B. Wood
- C. Copper
- D. Rubber

~~

T4A10 (B)

Which of the following is a good electrical insulator?

- A. Copper
- B. Glass
- C. Aluminum
- D. Mercury

~~

T4A11 (B)

What is the term used to describe opposition to current flow in ordinary conductors such as wires?

- A. Inductance
- B. Resistance
- C. Counter EMF
- D. Magnetism

~~

T4A12 (C)

What instrument is used to measure the flow of current in an electrical circuit?

- A. Frequency meter
- B. SWR meter
- C. Ammeter
- D. Voltmeter

~~

T4A13 (B)

What instrument is used to measure Electromotive Force (EMF) between two points such as the poles of a battery?

- A. Magnetometer
- B. Voltmeter
- C. Ammeter
- D. Ohmmeter

~~

**T4B relationship between frequency and wavelength,
identification of bands, names of frequency ranges, types of waves
1 exam question**

T4B01 (C)

What is the name for the distance a radio wave travels during one complete cycle?

- A. Wave speed
- B. Waveform
- C. Wavelength
- D. Wave spread

~~

T4B02 (D)

What term describes the number of times that an alternating current flows back and forth per second?

- A. Pulse rate
- B. Speed
- C. Wavelength
- D. Frequency

~~

T4B03 (B)

What does 60 hertz (Hz) mean?

- A. 6000 cycles per second
- B. 60 cycles per second
- C. 6000 meters per second
- D. 60 meters per second

~~

T4B04 (C)

Electromagnetic waves that oscillate more than 20,000 times per second as they travel through space are generally referred to as what?

- A. Gravity waves
- B. Sound waves
- C. Radio waves
- D. Gamma radiation

~~

T4B05 (A)

How fast does a radio wave travel through space?

- A. At the speed of light
- B. At the speed of sound
- C. Its speed is inversely proportional to its wavelength
- D. Its speed increases as the frequency increases

~~

T4B06 (B)

How does the wavelength of a radio wave relate to its frequency?

- A. The wavelength gets longer as the frequency increases
- B. The wavelength gets shorter as the frequency increases
- C. There is no relationship between wavelength and frequency
- D. The wavelength depends on the bandwidth of the signal

~~

T4B07 (D)

What is the formula for converting frequency to wavelength in meters?

- A. Wavelength in meters equals frequency in Hertz multiplied by 300
- B. Wavelength in meters equals frequency in Hertz divided by 300
- C. Wavelength in meters equals frequency in megahertz divided by 300
- D. Wavelength in meters equals 300 divided by frequency in megahertz

~~

T4B08 (C)

What are sound waves in the range between 300 and 3000 Hertz called?

- A. Test signals
- B. Ultrasonic waves
- C. Voice frequencies
- D. Radio frequencies

~~

T4B09 (A)

What property of a radio wave is often used to identify the different bands amateur radio operators use?

- A. The physical length of the wave
- B. The magnetic intensity of the wave
- C. The time it takes for the wave to travel one mile
- D. The voltage standing wave ratio of the wave

~~

T4B10 (A)

What is the frequency range of the 2 meter band in the United States?

- A. 144 to 148 MHz
- B. 222 to 225 MHz
- C. 420 to 450 MHz
- D. 50 to 54 MHz

~~

T4B11 (D)

What is the frequency range of the 6 meter band in the United States?

- A. 144 to 148 MHz
- B. 222 to 225 MHz
- C. 420 to 450 MHz
- D. 50 to 54 MHz

~~

T4B12 (C)

What is the frequency range of the 70 centimeter band in the United States?

- A. 144 to 148 MHz
- B. 222 to 225 MHz
- C. 420 to 450 MHz
- D. 50 to 54 MHz

~~

T4C - How radio works: receivers, transmitters, transceivers, amplifiers, power supplies, types of batteries, service life 1 exam question

T4C01 (B)

What is used to convert radio signals into sounds we can hear?

- A. Transmitter
- B. Receiver
- C. Microphone
- D. Antenna

~~

T4C02 (A)

What is used to convert sounds from our voice into radio signals?

- A. Transmitter
- B. Receiver
- C. Speaker
- D. Antenna

~~

T4C03 (A)

What two devices are combined into one unit in a transceiver?

- A. Receiver, transmitter
- B. Receiver, transformer
- C. Receiver, transistor
- D. Transmitter, deceiver

~~

T4C04 (C)

What device is used to convert the alternating current from a wall outlet into low-voltage direct current?

- A. Inverter
- B. Compressor
- C. Power Supply
- D. Demodulator

~~

T4C05 (A)

What device is used to increase the output of a 10 watt radio to 100 watts?

- A. Amplifier
- B. Power supply
- C. Antenna
- D. Attenuator

~~

T4C06 (D)

Which of the battery types listed below offers the longest life when used with a hand-held radio, assuming each battery is the same physical size?

- A. Lead-acid
- B. Alkaline
- C. Nickel-cadmium
- D. Lithium-ion

~~

T4C07 (B)

What is the nominal voltage per cell of a fully charged nickel-cadmium battery?

- A. 1.0 volts
- B. 1.2 volts
- C. 1.5 volts
- D. 2.2 volts

~~

T4C08 (B)

What battery type on this list is not designed to be re-charged?

- A. Nickel-cadmium
- B. Carbon-zinc
- C. Lead-acid
- D. Lithium-ion

~~

T4C09 (D)

What is required to keep rechargeable batteries in good condition and ready for emergencies?

- A. They must be inspected for physical damage and replaced if necessary
- B. They should be stored in a cool and dry location
- C. They must be given a maintenance recharge at least every 6 months
- D. All of these answers are correct

~~

T4C10 (B)

What is the best way to get the most amount of energy from a battery?

- A. Draw current from the battery as rapidly as possible
- B. Draw current from the battery at the slowest rate needed
- C. Reverse the leads when the battery reaches the 1/2 charge level
- D. Charge the battery as frequently as possible

~~

T4D Ohms law relationships 1 exam question

T4D01 (B)

What formula is used to calculate current in a circuit?

- A. Current (I) equals voltage (E) multiplied by resistance (R)
- B. Current (I) equals voltage (E) divided by resistance (R)
- C. Current (I) equals voltage (E) added to resistance (R)
- D. Current (I) equals voltage (E) minus resistance (R)

~~

T4D02 (A)

What formula is used to calculate voltage in a circuit?

- A. Voltage (E) equals current (I) multiplied by resistance (R)
- B. Voltage (E) equals current (I) divided by resistance (R)
- C. Voltage (E) equals current (I) added to resistance (R)
- D. Voltage (E) equals current (I) minus resistance (R)

~~

T4D03 (B)

What formula is used to calculate resistance in a circuit?

- A. Resistance (R) equals voltage (E) multiplied by current (I)
- B. Resistance (R) equals voltage (E) divided by current (I)
- C. Resistance (R) equals voltage (E) added to current (I)
- D. Resistance (R) equals voltage (E) minus current (I)

~~

T4D04 (B)

What is the resistance of a circuit when a current of 3 amperes flows through a resistor connected to 90 volts?

- A. 3 ohms
- B. 30 ohms
- C. 93 ohms
- D. 270 ohms

~~

T4D05 (C)

What is the resistance in a circuit where the applied voltage is 12 volts and the current flow is 1.5 amperes?

- A. 18 ohms
- B. 0.125 ohms
- C. 8 ohms
- D. 13.5 ohms

~~

T4D06 (D)

What is the current flow in a circuit with an applied voltage of 120 volts and a resistance of 80 ohms?

- A. 9600 amperes
- B. 200 amperes
- C. 0.667 amperes
- D. 1.5 amperes

~~

T4D07 (A)

What is the voltage across the resistor if a current of 0.5 amperes flows through a 2 ohm resistor?

- A. 1 volt
- B. 0.25 volts
- C. 2.5 volts
- D. 1.5 volts

~~

T4D08 (A)

What is the voltage across the resistor if a current of 1 ampere flows through a 10 ohm resistor?

- A. 10 volts
- B. 1 volt
- C. 11 volts
- D. 9 volts

~~

T4D09 (A)

What is the voltage across the resistor if a current of 2 amperes flows through a 10 ohm resistor?

- A. 20 volts
- B. 0.2 volts
- C. 12 volts
- D. 8 volts

~~

T4D10 (C)

What is the current flowing through a 100 ohm resistor connected across 200 volts?

- A. 20,000 amperes
- B. 0.5 amperes
- C. 2 amperes
- D. 100 amperes

~~

T4D11 (C)

What is the current flowing through a 24 ohm resistor connected across 240 volts?

- A. 24,000 amperes
- B. 0.1 amperes
- C. 10 amperes
- D. 216 amperes

~~

T4E - Power calculations, units, kilo, mega, milli, micro - 1 exam question

T4E01 (D)

What unit is used to describe electrical power?

- A. Ohm
- B. Farad
- C. Volt
- D. Watt

~~

T4E02 (A)

What is the formula used to calculate electrical power in a DC circuit?

- A. Power (P) equals voltage (E) multiplied by current (I)
- B. Power (P) equals voltage (E) divided by current (I)
- C. Power (P) equals voltage (E) minus current (I)
- D. Power (P) equals voltage (E) plus current (I)

~~

T4E03 (A)

How much power is represented by a voltage of 13.8 volts DC and a current of 10 amperes?

- A. 138 watts
- B. 0.7 watts
- C. 23.8 watts
- D. 3.8 watts

~~

T4E04 (B)

How much power is being used in a circuit when the voltage is 120 volts DC and the current is 2.5 amperes?

- A. 1440 watts
- B. 300 watts
- C. 48 watts
- D. 30 watts

~~

T4E05 (D)

How can you determine how many watts are being drawn by your transceiver when you are transmitting?

- A. Measure the DC voltage and divide it by 60 Hz
- B. Check the fuse in the power leads to see what size it is
- C. Look in the Radio Amateur's Handbook
- D. Measure the DC voltage at the transceiver and multiply by the current drawn when you transmit

~~

T4E06 (B)

How many amperes are flowing in a circuit when the applied voltage is 120 volts DC and the load is 1200 watts?

- A. 20 amperes
- B. 10 amperes
- C. 120 amperes
- D. 5 amperes

~~

T4E07 (C)

How many milliamperes is the same as 1.5 amperes?

- A. 15 milliamperes
- B. 150 milliamperes
- C. 1500 milliamperes
- D. 15000 milliamperes

~~

T4E08 (A)

What is another way to specify the frequency of a radio signal that is oscillating at 1,500,000 Hertz?

- A. 1500 kHz
- B. 1500 MHz
- C. 15 GHz
- D. 150 kHz

~~

T4E09 (C)

How many volts are equal to one kilovolt?

- A. one one-thousandth of a volt
- B. one hundred volts
- C. one thousand volts
- D. one million volts

~~

T4E10 (A)

How many volts are equal to one microvolt?

- A. one one-millionth of a volt
- B. one million volts
- C. one thousand kilovolts
- D. one one-thousandth of a volt

~~

T4E11 (B)

How many watts does a hand-held transceiver put out if the output power is 500 milliwatts?

- A. 0.02 watts
- B. 0.5 watts
- C. 5 watts
- D. 50 watts

~~

SUBELEMENT T5 Station setup and operation - 4 exam questions
4 groups

**T5A - Station hookup microphone, speaker, headphones, filters,
power source, connecting a computer 1 exam question**

T5A01 (B)

What does a microphone connect to in a basic amateur radio station?

- A. The receiver
- B. The transmitter
- C. The SWR Bridge
- D. The Balun

~~

T5A02 (C)

Which piece of station equipment converts electrical signals to sound waves?

- A. Frequency coordinator
- B. Frequency discriminator
- C. Speaker
- D. Microphone

~~

T5A03 (B)

What is the term used to describe what happens when a microphone and speaker are too close to each other?

- A. Excessive wind noise
- B. Audio feedback
- C. Inverted signal patterns
- D. Poor electrical grounding

~~

T5A04 (C)

What could you use in place of a regular speaker to help you copy signals in a noisy area?

- A. A video display
- B. A low pass filter
- C. A set of headphones
- D. A boom microphone

~~

T5A05 (A)

What is a good reason for using a regulated power supply for communications equipment?

- A. To protect equipment from voltage fluctuations
- B. A regulated power supply has FCC approval
- C. A fuse or circuit breaker regulates the power
- D. Regulated supplies are less expensive

~~

T5A06 (A)

Where must a filter be installed to reduce spurious emissions?

- A. At the transmitter
- B. At the receiver
- C. At the station power supply
- D. At the microphone

~~

T5A07 (D)

What type of filter should be connected to a TV receiver as the first step in trying to prevent RF overload from a nearby 2-meter transmitter?

- A. Low-pass filter
- B. High-pass filter
- C. Band pass filter
- D. Notch filter

~~

T5A08 (C)

What is connected between the transceiver and computer terminal in a packet radio station?

- A. Transmatch
- B. Mixer
- C. Terminal Node Controller
- D. Antenna

~~

T5A09 (D)

Which of these items is not required for a packet radio station?

- A. Antenna
- B. Transceiver
- C. Power source
- D. Microphone

~~

T5A10 (B)

What can be used to connect a radio with a computer for data transmission?

- A. Balun
- B. Sound Card
- C. Impedance matcher
- D. Autopatch

~~

T5B - Operating controls 1 exam question

T5B01 (B)

What may happen if a transmitter is operated with the microphone gain set too high?

- A. The output power will be too high
- B. It may cause the signal to become distorted and unreadable
- C. The frequency will vary
- D. The SWR will increase

~~

T5B02 (D)

What kind of information may a VHF/UHF transceiver be capable of storing in memory?

- A. Transmit and receive operating frequency
- B. CTCSS tone frequency
- C. Transmit power level
- D. All of these answers are correct

~~

T5B03 (A)

What is one way to select a frequency on which to operate?

- A. Use the keypad or VFO knob to enter the correct frequency
- B. Turn on the CTCSS encoder
- C. Adjust the power supply ripple frequency
- D. All of these answers are correct

~~

T5B04 (D)

What is the purpose of the squelch control on a transceiver?

- A. It is used to set the highest level of volume desired
- B. It is used to set the transmitter power level
- C. It is used to adjust the antenna polarization
- D. It is used to quiet noise when no signal is being received

~~

T5B05 (B)

What is a way to enable quick access to a favorite frequency on your transceiver?

- A. Enable the CTCSS tones
- B. Store the frequency in a memory channel
- C. Disable the CTCSS tones
- D. Use the scan mode to select the desired frequency

~~

T5B06 (C)

What might you do to improve the situation if the station you are listening to is hard to copy because of ignition noise interference?

- A. Increase your transmitter power
- B. Decrease the squelch setting
- C. Turn on the noise blanker
- D. Use the RIT control

~~

T5B07 (A)

What is the purpose of the buttons labeled "up" and "down" on many microphones?

- A. To allow easy frequency or memory selection
- B. To raise or lower the internal antenna
- C. To set the battery charge rate
- D. To upload or download messages

~~

T5B08 (C)

What is the purpose of the "shift" control found on many VHF/UHF transceivers?

- A. Adjust transmitter power level
- B. Change bands
- C. Adjust the offset between transmit and receive frequency
- D. Change modes

~~

T5B09 (B)

What does RIT mean?

- A. Receiver Input Tone
- B. Receiver Incremental Tuning
- C. Rectifier Inverter Test
- D. Remote Input Transmitter

~~

T5B10 (D)

What is the purpose of the "step" menu function found on many transceivers?

- A. It adjusts the transmitter power output level
- B. It adjusts the modulation level
- C. It sets the earphone volume
- D. It sets the tuning rate when changing frequencies

~~

T5B11 (C)

What is the purpose of the "function" or "F" key found on many transceivers?

- A. It turns the power on and off
- B. It selects the autopatch access code
- C. It selects an alternate action for some control buttons
- D. It controls access to the memory scrambler

~~

T5C Repeaters; repeater and simplex operating techniques, offsets, selective squelch, open and closed repeaters, linked repeaters - 1 exam question

T5C01 (B)

What is one purpose of a repeater?

- A. To cut your power bill by using someone else's higher power system
- B. To extend the usable range of mobile and low-power stations
- C. To transmit signals for observing propagation and reception
- D. To communicate with stations in services other than amateur

~~

T5C02 (B)

What is a courtesy tone?

- A. A tone used to identify the repeater
- B. A tone used to indicate when a transmission is complete
- C. A tone used to indicate that a message is waiting for someone
- D. A tone used to activate a receiver in case of severe weather

~~

T5C03 (A)

Which of the following is the most important information to know before using a repeater?

- A. The repeater input and output frequencies
- B. The repeater call sign
- C. The repeater power level
- D. Whether or not the repeater has an autopatch

~~

T5C04 (C)

Why should you pause briefly between transmissions when using a repeater?

- A. To let your radio cool off
- B. To reach for pencil and paper so you can take notes
- C. To listen for anyone wanting to break in
- D. To dial up the repeater's autopatch

~~

T5C05 (A)

What is the most common input/output frequency offset for repeaters in the 2-meter band?

- A. 0.6 MHz
- B. 1.0 MHz
- C. 1.6 MHz
- D. 5.0 MHz

~~

T5C06 (D)

What is the most common input/output frequency offset for repeaters in the 70-centimeter band?

- A. 600 kHz
- B. 1.0 MHz
- C. 1.6 MHz
- D. 5.0 MHz

~~

T5C07 (A)

What is meant by the terms input and output frequency when referring to repeater operations?

- A. The repeater receives on one frequency and transmits on another
- B. The repeater offers a choice of operating frequencies
- C. One frequency is used to control the repeater and another is used to retransmit received signals
- D. The repeater must receive an access code on one frequency before it will begin transmitting

~~

T5C08 (A)

What is the meaning of the term simplex operation?

- A. Transmitting and receiving on the same frequency
- B. Transmitting and receiving over a wide area
- C. Transmitting on one frequency and receiving on another
- D. Transmitting one-way communications

~~

T5C09 (B)

What is a reason to use simplex instead of a repeater?

- A. When the most reliable communications are needed
- B. To avoid tying up the repeater when direct contact is possible
- C. When an emergency telephone call is needed
- D. When you are traveling and need some local information

~~

T5C10 (A)

How might you find out if you could communicate with a station using simplex instead of a repeater?

- A. Check the repeater input frequency to see if you can hear the other station
- B. Check to see if you can hear the other station on a different frequency band
- C. Check to see if you can hear a more distant repeater
- D. Check to see if a third station can hear both of you

~~

T5C11 (C)

What is the term for a series of repeaters that can be connected to one another to provide users with a wider coverage?

- A. Open repeater system
- B. Closed repeater system
- C. Linked repeater system
- D. Locked repeater system

~~

T5C12 (A)

What is the main reason repeaters should be approved by the local frequency coordinator before being installed?

- A. Coordination minimizes interference between repeaters and makes the most efficient use of available frequencies
- B. Coordination is required by the FCC
- C. Repeater manufacturers have exclusive territories and you could be fined for using the wrong equipment
- D. Only coordinated systems will be approved by the officers of the local radio club

~~

T5C13 (B)

Which of the following statements regarding use of repeaters is true?

- A. All amateur radio operators have the right to use any repeater at any time
- B. Access to any repeater may be limited by the repeater owner
- C. Closed repeaters must be opened at the request of any amateur wishing to use it
- D. Open repeaters are required to use CTCSS tones for access

~~

T5C14 (D)

What term is used to describe a repeater when use is restricted to the members of a club or group?

- A. A beacon station
- B. An open repeater
- C. A auxiliary station
- D. A closed repeater

~~

T5D Recognition and correction of problems, symptoms of overload and overdrive, distortion, over and under modulation, RF feedback, off frequency signals, fading and noise, problems with digital communications links 1 exam question

T5D01 (C)

What is meant by fundamental overload in reference to a receiver?

- A. Too much voltage from the power supply
- B. Too much current from the power supply
- C. Interference caused by very strong signals from a nearby source
- D. Interference caused by turning the volume up too high

~~

T5D02 (B)

Which of the following is NOT a cause of radio frequency interference?

- A. Fundamental overload
- B. Doppler shift
- C. Spurious emissions
- D. Harmonics

~~

T5D03 (B)

What is the most likely cause of telephone interference from a nearby transmitter?

- A. Harmonics from the transmitter
- B. The transmitter's signals are causing the telephone to act like a radio receiver
- C. Poor station grounding
- D. Improper transmitter adjustment

~~

T5D04 (C)

What is a logical first step when attempting to cure a radio frequency interference problem in a nearby telephone?

- A. Install a low-pass filter at the transmitter
- B. Install a high-pass filter at the transmitter
- C. Install an RF filter at the telephone
- D. Improve station grounding

~~

T5D05 (A)

What should you do first if someone tells you that your transmissions are interfering with their TV reception?

- A. Make sure that your station is operating properly and that it does not cause interference to your own television
- B. Immediately turn off your transmitter and contact the nearest FCC office for assistance
- C. Tell them that your license gives you the right to transmit and nothing can be done to reduce the interference
- D. Continue operating normally because your equipment cannot possibly cause any interference

~~

T5D07 (D)

Which of the following may be useful in correcting a radio frequency interference problem?

- A. Snap-on ferrite chokes
- B. Low-pass and high-pass filters
- C. Notch and band-pass filters
- D. All of these answers are correct

~~

T5D08 (C)

What is the proper course of action to take when a neighbor reports that your radio signals are interfering with something in his home?

- A. You are not required to do anything
- B. Contact the FCC to see if other interference reports have been filed
- C. Check your station and make sure it meets the standards of good amateur practice
- D. Change your antenna polarization from vertical to horizontal

~~

T5D09 (D)

What should you do if a "Part 15" device in your neighbor's home is causing harmful interference to your amateur station?

- A. Work with your neighbor to identify the offending device
- B. Politely inform your neighbor about the rules that require him to stop using the device if it causes interference
- C. Check your station and make sure it meets the standards of good amateur practice
- D. All of these answers are correct

~~

T5D10 (D)

What could be happening if another operator tells you he is hearing a variable high-pitched whine on the signals from your mobile transmitter?

- A. Your microphone is picking up noise from an open window
- B. You have the volume on your receiver set too high
- C. You need to adjust your squelch control
- D. The power wiring for your radio is picking up noise from the vehicle's electrical system

~~

T5D11 (C)

What may be the problem if another operator reports that your SSB signal is very garbled and breaks up?

- A. You have the noise limiter turned on
- B. The transmitter is too hot and needs to cool off
- C. RF energy may be getting into the microphone circuit and causing feedback
- D. You are operating on lower sideband

~~

T5D12 (D)

What might be the problem if you receive a report that your signal through the repeater is distorted or weak?

- A. Your transmitter may be slightly off frequency
- B. Your batteries may be running low
- C. You could be in a bad location
- D. All of these answers are correct

~~

T5D13 (B)

What is one of the reasons to use digital signals instead of analog signals to communicate with another station?

- A. Digital systems are less expensive than analog systems
- B. Many digital systems can automatically correct errors caused by noise and interference
- C. Digital modulation circuits are much less complicated than any other types
- D. All digital signals allow higher transmit power levels

~~

SUBELEMENT T6 Communications modes and methods 3 exam questions - 3 groups

**T6A - Modulation modes, descriptions and bandwidth (AM, FM, SSB)
1 exam question**

T6A01 (C)

What are phone transmissions?

- A. The use of telephones to set up an amateur radio contact
- B. A phone patch between amateur radio and the telephone system
- C. Voice transmissions by radio
- D. Placing the telephone handset near a radio transceiver's microphone and speaker to relay a telephone call

~~

T6A02 (C)

Which of the following is a form of amplitude modulation?

- A. Frequency modulation
- B. Phase modulation
- C. Single sideband
- D. Phase shift keying

~~

T6A03 (A)

What name is given to an amateur radio station that is used to connect other amateur stations to the Internet?

- A. A gateway
- B. A repeater
- C. A digipeater
- D. A beacon station

~~

T6A04 (C)

Which type of voice modulation is most often used for long distance and weak signal contacts on the VHF and UHF bands?

- A. FM
- B. AM
- C. SSB
- D. PM

~~

T6A05 (D)

Which type of modulation is most commonly used for VHF and UHF voice repeaters?

- A. AM
- B. SSB
- C. PSK
- D. FM

~~

T6A06 (C)

Which emission type has the narrowest bandwidth?

- A. FM voice
- B. SSB voice
- C. CW
- D. Slow-scan TV

~~

T6A07 (A)

Which sideband is normally used for VHF and UHF SSB communications?

- A. Upper sideband
- B. Lower sideband
- C. Suppressed sideband
- D. Inverted sideband

~~

T6A08 (C)

What is the primary advantage of single sideband over FM for voice transmissions?

- A. SSB signals are easier to tune in than FM signals
- B. SSB signals are less likely to be bothered by noise interference than FM signals.
- C. SSB signals use much less bandwidth than FM signals
- D. SSB signals have no advantages at all in comparison to other modes.

~~

T6A09 (D)

What is the approximate bandwidth of a single-sideband voice signal?

- A. 1 kHz
- B. 2 kHz
- C. Between 3 and 6 kHz
- D. Between 2 and 3 kHz

~~

T6A10 (C)

What is the approximate bandwidth of a frequency-modulated voice signal?

- A. Less than 500 Hz
- B. About 150 kHz
- C. Between 5 and 15 kHz
- D. More than 30 kHz

~~

T6A11 (B)

What is the normal bandwidth required for a conventional fast-scan TV transmission using combined video and audio on the 70-centimeter band?

- A. More than 10 MHz
- B. About 6 MHz
- C. About 3 MHz
- D. About 1 MHz

~~

T6B - Voice communications, EchoLink and IRLP 1 exam question

T6B01 (C)

How is information transmitted between stations using Echolink?

- A. APRS
- B. PSK31
- C. Internet
- D. Atmospheric ducting

~~

T6B02 (A)

What does the abbreviation IRLP mean?

- A. Internet Radio Linking Project
- B. Internet Relay Language Protocol
- C. International Repeater Linking Project
- D. International Radio Linking Project

~~

T6B03 (B)

Who may operate on the Echolink system?

- A. Only club stations
- B. Any licensed amateur radio operator
- C. Technician class licensed amateur radio operators only
- D. Any person, licensed or not, who is registered with the Echolink system

~~

T6B04 (A)

What technology do Echolink and IRLP have in common?

- A. Voice over Internet protocol
- B. Ionospheric propagation
- C. AC power lines
- D. PSK31

~~

T6B05 (C)

What method is used to transfer data by IRLP?

- A. VHF Packet radio
- B. PSK31
- C. Voice over Internet protocol
- D. None of these answers are correct

~~

T6B06 (B)

What does the term IRLP describe?

- A. A method of encrypting data
- B. A method of linking between two or more amateur stations using the Internet
- C. A low powered radio using infra-red frequencies
- D. An international logging program.

~~

T6B07 (B)

Which one of the following allows computer-to-radio linking for voice transmission?

- A. Grid modulation
- B. EchoLink
- C. AMTOR
- D. Multiplex

~~

T6B08 (C)

What are you listening to if you hear a brief tone and then a station from Russia calling CQ on a 2-meter repeater?

- A. An ionospheric band opening on VHF
- B. A prohibited transmission
- C. An Internet linked DX station
- D. None of these answers are correct

~~

T6B10 (C)

Where might you find a list of active nodes using VoIP?

- A. The FCC Rulebook
- B. From your local emergency coordinator
- C. A repeater directory or the Internet
- D. The local repeater frequency coordinator

~~

T6B11 (D)

When using a portable transceiver how do you select a specific IRLP node?

- A. Choose a specific CTCSS tone
- B. Choose the correct DSC tone
- C. Access the repeater autopatch
- D. Use the keypad to transmit the IRLP node numbers

~~

T6C Non-voice communications - image communications, data, CW, packet, PSK31, Morse code techniques, Q signals 1 exam question

T6C01 (D)

Which of the following is an example of a digital communications method?

- A. Single sideband voice
- B. Amateur television
- C. FM voice
- D. Packet radio

~~

T6C02 (A)

What does the term APRS mean?

- A. Automatic Position Reporting System
- B. Associated Public Radio Station
- C. Auto Planning Radio Set-up
- D. Advanced Polar Radio System

~~

T6C03 (D)

What item is required along with your normal radio for sending automatic location reports?

- A. A connection to the vehicle speedometer
- B. A connection to a WWV receiver
- C. A connection to a broadcast FM sub-carrier receiver
- D. A global positioning system receiver

~~

T6C04 (C)

What type of transmission is indicated by the term NTSC?

- A. A Normal Transmission mode in Static Circuit
- B. A special mode for earth satellite uplink
- C. A standard fast scan color television signal
- D. A frame compression scheme for TV signal

~~

T6C05 (B)

What emission mode may be used by a Technician class operator in the 219 - 220 MHz frequency range?

- A. Slow-scan television
- B. Point-to-point digital message forwarding
- C. FM voice
- D. Fast-scan television

~~

T6C06 (B)

What does the abbreviation PSK mean?

- A. Pulse Shift Keying
- B. Phase Shift Keying
- C. Packet Short Keying
- D. Phased Slide Keying

~~

T6C07 (D)

What is PSK31?

- A. A high-rate data transmission mode used to transmit files
- B. A method of reducing noise interference to FM signals
- C. A type of television signal
- D. A low-rate data transmission mode that works well in noisy conditions

~~

T6C08 (C)

What sending speed is recommended when using Morse code?

- A. Only speeds below five WPM
- B. The highest speed your keyer will operate
- C. Any speed at which you can reliably receive
- D. The highest speed at which you can control the keyer

~~

T6C09 (D)

What is a practical reason for being able to copy CW when using repeaters?

- A. To send and receive messages others cannot overhear
- B. To conform with FCC licensing requirements
- C. To decode packet radio transmissions
- D. To recognize a repeater ID sent in Morse code

~~

T6C10 (A)

What is the "Q" signal used to indicate that you are receiving interference from other stations?

- A. QRM
- B. QRN
- C. QTH
- D. QSB

~~

T6C11 (B)

What is the "Q" signal used to indicate that you are changing frequency?

- A. QRU
- B. QSY
- C. QSL
- D. QRZ

~~

T7A Operating in the field, radio direction finding, radio control, contests, special event stations 1 exam question

T7A01 (C)

What is a good thing to have when operating a hand-held transceiver away from home?

- A. A selection of spare parts
- B. A programming cable to load new channels
- C. One or more fully charged spare battery packs
- D. A dummy load

~~

T7A02 (B)

Which of these items would probably not be very useful to include in an emergency response kit?

- A. An external antenna and several feet of connecting cable
- B. A 1500 watt output linear amplifier
- C. A cable and clips for connecting your transceiver to an external battery
- D. A listing of repeater frequencies and nets in your area

~~

T7A03 (B)

How can you make the signal from a hand-held radio stronger when operating in the field?

- A. Switch to VFO mode
- B. Use an external antenna instead of the rubber-duck antenna
- C. Stand so there is a metal building between you and other stations
- D. Speak as loudly as you can

~~

T7A04 (C)

What would be a good thing to have when operating from a location that includes lots of crowd noise?

- A. A portable bullhorn
- B. An encrypted radio
- C. A combination headset and microphone
- D. A pulse noise blanker

~~

T7A05 (C)

What is a method used to locate sources of noise interference or jamming?

- A. Echolocation
- B. Doppler radar
- C. Radio direction finding
- D. Phase locking

~~

T7A06 (B)

Which of these items would be the most useful for a hidden transmitter hunt?

- A. Binoculars and a compass
- B. A directional antenna
- C. A calibrated noise bridge
- D. Calibrated SWR meter

~~

T7A07 (A)

What is a popular operating activity that involves contacting as many stations as possible during a specified period of time?

- A. Contesting
- B. Net operations
- C. Public service events
- D. Simulated emergency exercises

~~

T7A09 (A)

What is a grid locator?

- A. A letter-number designator assigned to a geographic location
- B. Your azimuth and elevation
- C. Your UTC location
- D. The 4 digits that follow your ZIP code

~~

T7A10 (C)

What is a special event station?

- A. A station that sends out birthday greetings
- B. A station that operates only on holidays
- C. A temporary station that operates in conjunction with an activity of special significance
- D. A station that broadcasts special events

~~

T7A11 (B) [97.215(c)]

What is the maximum power allowed when transmitting telecommand signals to radio controlled models?

- A. 500 milliwatts
- B. 1 watt
- C. 25 watts
- D. 1500 watts

~~

T7A12 (C) [97.215(a)]

What is the station identification requirement when sending commands to a radio control model using amateur frequencies?

- A. Voice identification must be transmitted every 10 minutes
- B. Morse code ID must be sent once per hour
- C. A label indicating the licensee's call sign and address must be affixed to the transmitter
- D. There is no station identification requirement for this service

~~

T7B Satellite operation, Doppler shift, satellite sub bands, LEO, orbit calculation, split frequency operation, operating protocols, AMSAT, ISS communications 1 exam question

T7B01 (D)

What class of license is required to use amateur satellites?

- A. Only Extra class licensees can use amateur radio satellites
- B. General or higher class licensees who have a satellite operator certification
- C. Only persons who are AMSAT members and who have paid their dues
- D. Any amateur whose license allows them to transmit on the satellite uplink frequency

~~

T7B02 (B)

How much power should you use to transmit when using an amateur satellite?

- A. The maximum power of your transmitter
- B. The minimum amount of power needed to complete the contact
- C. No more than half the rating of your linear amplifier
- D. Never more than 1 watt

~~

T7B03 (D)

What is something you can do when using an amateur radio satellite?

- A. Listen to the Space Shuttle
- B. Get global positioning information
- C. Make autopatch calls
- D. Talk to amateur radio operators in other countries

~~

T7B04 (B)

Who may make contact with an astronaut on the International Space Station using amateur radio frequencies?

- A. Only members of amateur radio clubs at NASA facilities
- B. Any amateur with a Technician or higher class license
- C. Only the astronaut's family members who are hams
- D. You cannot talk to the ISS on amateur radio frequencies

~~

T7B05 (D)

What is a satellite beacon?

- A. The primary transmit antenna on the satellite
- B. An indicator light that shows where to point your antenna
- C. A reflective surface on the satellite
- D. A signal that contains information about a satellite

~~

T7B06 (D)

What should you use to determine when you can access an amateur satellite?

- A. A GPS receiver
- B. A field strength meter
- C. A telescope
- D. A satellite tracking program

~~

T7B07 (C)

What is Doppler shift?

- A. A change in the satellite orbit
- B. A mode where the satellite receives signals on one band and transmits on another
- C. A change in signal frequency caused by motion through space
- D. A special digital communications mode for some satellites

~~

T7B08 (C)

What is the name of the group that coordinates the building and/or launch of the largest number of amateur radio satellites?

- A. NSA
- B. USOC
- C. AMSAT
- D. FCC

~~

T7B09 (C)

What is a satellite sub-band?

- A. A special frequency for talking to submarines
- B. A frequency range limited to Extra Class licensees
- C. A portion of a band where satellite operations are permitted
- D. An obsolete term that has no meaning

~~

T7B10 (B)

What is the satellite sub-band on 70-CM?

- A. 420 to 450 MHz
- B. 435 to 438 MHz
- C. 440 to 450 MHz
- D. 432 to 433 MHz

~~

T7B11 (C)

What do the initials LEO tell you about an amateur satellite?

- A. The satellite battery is in Low Energy Operation mode
- B. The satellite is performing a Lunar Ejection Orbit maneuver
- C. The satellite is in a Low Earth Orbit
- D. The satellite uses Light Emitting Optics

~~

SUBELEMENT T8 Emergency and Public Service Communications 3
exam questions 3 groups

T8A - FCC declarations of an emergency, use of non-amateur equipment and frequencies, use of equipment by unlicensed persons, tactical call signs 1 exam question

T8A01 (C) [97.401(b)]

What information is included in an FCC declaration of a temporary state of communication emergency?

- A. A list of organizations authorized to use radio communications in the affected area
- B. A list of amateur frequency bands to be used in the affected area
- C. Any special conditions and rules to be observed during the emergency
- D. An operating schedule for authorized amateur emergency stations

~~

T8A02 (B) [97.111(a)]

Under what conditions are amateur stations allowed to communicate with stations operating in other radio services?

- A. When communicating with the space shuttle
- B. When specially authorized by the FCC, or in an actual emergency
- C. When communicating with stations in the Citizens Radio Service
- D. When a commercial broadcast station is reporting news during a natural disaster

~~

T8A03 (D)

What should you do if you are in contact with another station and an emergency call is heard?

- A. Tell the calling station that the frequency is in use
- B. Direct the calling station to the nearest emergency net frequency
- C. Disregard the call and continue with your contact
- D. Stop your contact immediately and take the emergency call

~~

T8A04 (C)

What are the restrictions on amateur radio communications after the FCC has declared a communications emergency?

- A. The emergency declaration prohibits all communications
- B. There are no restrictions if you have a special emergency certification
- C. You must avoid those frequencies dedicated to supporting the emergency unless you are participating in the relief effort
- D. Only military stations are allowed to use the amateur radio frequencies during an emergency

~~

T8A05 (B)

What is one reason for using tactical call signs such as "command post" or "weather center" during an emergency?

- A. They help to keep the general public informed
- B. They are more efficient and help coordinate public-service communications
- C. They are required by the FCC
- D. They increase goodwill and sound professional

~~

T8A06 (A) [97.401(b)]

What is legally required to restrict a frequency to emergency-only communication?

- A. An FCC declaration of a communications emergency
- B. Determination by the designated net manager for an emergency net
- C. Authorization by an ARES/RACES emergency coordinator
- D. A Congressional declaration of intent

~~

T8A07 (D)

Who has the exclusive use of a frequency if the FCC has not declared a communication emergency?

- A. Any net station that has traffic
- B. The station first occupying the frequency
- C. Individuals passing health and welfare communications
- D. No station has exclusive use in this circumstance

~~

T8A08 (B)

What should you do if you hear someone reporting an emergency?

- A. Report the station to the FCC immediately
- B. Assume the emergency is real and act accordingly
- C. Ask the other station to move to a different frequency
- D. Tell the station to call the police on the telephone

~~

T8A09 (D)

What is an appropriate way to initiate an emergency call on amateur radio?

- A. Yell as loudly as you can into the microphone
- B. Ask if the frequency is in use and wait for someone to give you permission to go ahead before proceeding
- C. Declare a communications emergency
- D. Say "Mayday, Mayday, Mayday" followed by "any station come in please" and identify your station

~~

T8A10 (D)

What are the penalties for making a false emergency call?

- A. You could have your license revoked
- B. You could be fined a large sum of money
- C. You could be sent to prison
- D. All of these answers are correct

~~

T8A11 (B) [97.101(c)]

What type of communications has priority at all times in the Amateur Radio Service?

- A. Repeater communications
- B. Emergency communications
- C. Simplex communications
- D. Third-party communications

~~

T8A12 (D) [97.101(c)]

When must priority be given to stations providing emergency communications?

- A. Only when operating under RACES
- B. Only when an emergency has been declared
- C. Any time a net control station is on the air
- D. At all times and on all frequencies

~~

T8B - Preparation for emergency operations, RACES/ARES, safety of life and property, using ham radio at civic events, compensation prohibited 1 exam question

T8B01 (D)

What can you do to be prepared for an emergency situation where your assistance might be needed?

- A. Check at least twice a year to make sure you have all of your emergency response equipment and know where it is
- B. Make sure you have a way to run your equipment if there is a power failure in your area
- C. Participate in drills that test your ability to set up and operate in the field
- D. All of these answers are correct

~~

T8B02 (C) [97.403]

When may you use your amateur station to transmit a "SOS" or "MAYDAY" signal?

- A. Only when you are transmitting from a ship at sea
- B. Only at 15 and 30 minutes after the hour
- C. When there is immediate threat to human life or property
- D. When the National Weather Service has announced a weather warning

~~

T8B03 (A)

What is the primary function of RACES in relation to emergency activities?

- A. RACES organizations are restricted to serving local, state, and federal government emergency management agencies
- B. RACES supports agencies like the Red Cross, Salvation Army, and National Weather Service
- C. RACES supports the National Traffic System
- D. RACES is a part of the National Emergency Warning System

~~

T8B04 (B)

What is the primary function of ARES in relation to emergency activities?

- A. ARES organizations are restricted to serving local, state, and federal government emergency management agencies
- B. ARES supports agencies like the Red Cross, Salvation Army, and National Weather Service
- C. ARES groups work only with local school districts
- D. ARES supports local National Guard units

~~

T8B05 (C) [97.407(a)]

What organization must you register with before you can participate in RACES activities?

- A. A local amateur radio club
- B. A local racing organization
- C. The responsible civil defense organization
- D. The Federal Communications Commission

~~

T8B06 (B)

What is necessary before you can join an ARES group?

- A. You are required to join the ARRL
- B. You must have an amateur radio license
- C. You must have an amateur radio license and have Red Cross CPR training
- D. You must register with a civil defense organization

~~

T8B07 (D)

What could be used as an alternate source of power to operate radio equipment during emergencies?

- A. The battery in a car or truck
- B. A bicycle generator
- C. A portable solar panel
- D. All of these answers are correct

~~

T8B08 (B) [97.403, 97.405(a),(b)]

When can you use non-amateur frequencies or equipment to call for help in a situation involving immediate danger to life or property?

- A. Never; your license only allows you to use the frequencies authorized to your class of license
- B. In a genuine emergency you may use any means at your disposal to call for help on any frequency
- C. When you have permission from the owner of the set
- D. When you have permission from a police officer on the scene

~~

T8B09 (C)

Why should casual conversation between stations during a public service event be avoided?

- A. Such chatter is often interesting to bystanders
- B. Other listeners might overhear personal information
- C. Idle chatter may interfere with important traffic
- D. You might have to change batteries more often

~~

T8B10 (B)

What should you do if a reporter asks to use your amateur radio transceiver to make a news report?

- A. Allow the use but give your call sign every 10 minutes
- B. Advise them that the FCC prohibits such use
- C. Tell them it is OK as long as you do not receive compensation
- D. Tell the reporter that you must approve the material beforehand

~~

T8B11 (C) [97.403, 97.405(a),(b)]

When can you use a modified amateur radio transceiver to transmit on the local fire department frequency?

- A. When you are helping the Fire Department raise money
- B. Only when the Fire Department is short of regular equipment
- C. In a genuine emergency you may use any means at your disposal to call for help on any frequency
- D. When the local Fire Chief has given written permission

~~

T8C - Net operations, responsibilities of the net control station, message handling, interfacing with public safety officials - 1 exam question

T8C01 (A)

Which type of traffic has the highest priority?

- A. Emergency traffic
- B. Priority traffic
- C. Health and welfare traffic
- D. Routine traffic

~~

T8C02 (B)

What type of messages should not be transmitted over amateur radio frequencies during emergencies?

- A. Requests for supplies
- B. Personal information concerning victims
- C. A schedule of relief operators
- D. Estimates of how much longer the emergency will last

~~

T8C03 (C)

What should you do to minimize disruptions to an emergency traffic net once you have checked in?

- A. Whenever the net frequency is quiet, announce your call sign and location
- B. Move 5 kHz away from the net's frequency and use high power to ask other hams to keep clear of the net frequency
- C. Do not transmit on the net frequency until asked to do so by the net control station
- D. Wait until the net frequency is quiet, then ask for any emergency traffic for your area

~~

T8C04 (B)

What is one thing that must be included when passing emergency messages?

- A. The call signs of all the stations passing the message
- B. The name of the person originating the message
- C. A status report
- D. The message title

~~

T8C05 (A)

What is one way to reduce the chances of casual listeners overhearing sensitive emergency traffic?

- A. Pass messages using a non-voice mode such as packet radio or Morse code
- B. Speak as rapidly as possible to reduce your on-air time
- C. Spell out every word using phonetics
- D. Restrict transmission of messages to the hours between midnight and 4:00 AM

~~

T8C06 (C)

What is of primary importance for a net control station?

- A. A dual-band transceiver
- B. A network card
- C. A strong and clear signal
- D. The ability to speak several languages

~~

T8C07 (B)

What should the net control station do if someone breaks in with emergency traffic?

- A. Ask them to wait until the roll has been called
- B. Stop all net activity until the emergency has been handled
- C. Ask the station to call the local police and then resume normal net activities
- D. Ask them to move off your net frequency immediately

~~

T8C08 (C)

What should you do if a large scale emergency has just occurred and no net control station is available?

- A. Wait until the assigned net control station comes on the air and pass your traffic when called
- B. Transmit a call for help and hope someone will hear you
- C. Open the emergency net immediately and ask for check-ins
- D. Listen to the local NOAA weather broadcast to find out how long the emergency will last

~~

T8C09 (D)

What is the preamble of a message?

- A. The first paragraph of the message text
- B. The message number
- C. The priority handling indicator for the message
- D. The information needed to track the message as it passes through the amateur radio traffic handling system

~~

T8C10 (A)

What is meant by the term "check" in reference to a message?

- A. The check is a count of the number of words in the message
- B. The check is the value of a money order attached to the message
- C. The check is a list of stations that have relayed the message
- D. The check is a box on the message form that tells you the message was received

~~

T8C11 (B)

What is the recommended guideline for the maximum number of words to be included in the text of an emergency message?

- A. 10 words
- B. 25 words
- C. 50 words
- D. 75 words

~~

SUBELEMENT T9 Radio waves, propagation, and antennas - 3 exam questions 3 groups

T9A - Antenna types vertical, horizontal, concept of gain, common portable and mobile antennas, losses with short antennas, relationships between antenna length and frequency, dummy loads - 1 exam question

T9A01 (C)

What is a beam antenna?

- A. An antenna built from metal I-beams
- B. An antenna that transmits and receives equally well in all directions
- C. An antenna that concentrates signals in one direction
- D. An antenna that reverses the phase of received signals

~~

T9A02 (C)

What is an antenna that consists of a single element mounted perpendicular to the Earth's surface?

- A. A conical monopole
- B. A horizontal antenna
- C. A vertical antenna
- D. A traveling wave antenna

~~

T9A03 (B)

What type of antenna is a simple dipole mounted so the elements are parallel to the Earth's surface?

- A. A ground wave antenna
- B. A horizontal antenna
- C. A rhombic antenna
- D. A vertical antenna

~~

T9A04 (A)

What is a disadvantage of the "rubber duck" antenna supplied with most hand held radio transceivers?

- A. It does not transmit or receive as effectively as a full sized antenna
- B. It is much more expensive than a standard antenna
- C. If the rubber end cap is lost it will unravel very quickly
- D. It transmits a circular polarized signal

~~

T9A05 (C)

How does the physical size of half-wave dipole antenna change with operating frequency?

- A. It becomes longer as the frequency increases
- B. It must be made larger because it has to handle more power
- C. It becomes shorter as the frequency increases
- D. It becomes shorter as the frequency decreases

~~

T9A06 (B)

What is the advantage of 5/8 wavelength over 1/4 wavelength vertical antennas?

- A. They are easier to match to the feed line than other types
- B. Their radiation pattern concentrates energy at lower angles
- C. They pick up less noise
- D. Their radiation pattern concentrates energy at higher angles

~~

T9A07 (A)

What is the primary purpose of a dummy load?

- A. It does not radiate interfering signals when making tests
- B. It will prevent over-modulation of your transmitter
- C. It keeps you from making mistakes while on the air
- D. It is used for close in work to prevent overloads

~~

T9A08 (C)

What type of antennas are the quad, Yagi, and dish?

- A. Antennas invented after 1985
- B. Loop antennas
- C. Directional or beam antennas
- D. Antennas that are not permitted for amateur radio stations

~~

T9A09 (D)

What is one type of antenna that offers good efficiency when operating mobile and can be easily installed or removed?

- A. A microwave antenna
- B. A quad antenna
- C. A traveling wave antenna
- D. A magnet mount vertical antenna

~~

T9A10 (A)

What is a good reason not to use a "rubber duck" antenna inside your car?

- A. Signals can be 10 to 20 times weaker than when you are outside of the vehicle
- B. RF energy trapped inside the vehicle can distort your signal
- C. You might cause a fire in the vehicle upholstery
- D. The SWR might increase

~~

T9A11 (C)

What is the approximate length, in inches, of a quarter-wavelength vertical antenna for 146 MHz?

- A. 112 inches
- B. 50 inches
- C. 19 inches
- D. 12 inches

~~

T9A12 (C)

What is the approximate length, in inches, of a 6-meter $1/2$ wavelength wire dipole antenna?

- A. 6 inches
- B. 50 inches
- C. 112 inches
- D. 236 inches

~~

**T9B Propagation, fading, multipath distortion, reflections,
radio horizon, terrain blocking, wavelength vs. penetration,
antenna orientation 1 exam question**

T9B01 (C)

Why are VHF/UHF signals not normally heard over long distances?

- A. They are too weak to go very far
- B. FCC regulations prohibit them from going more than 50 miles
- C. VHF and UHF signals are usually not reflected by the
 ionosphere
- D. They collide with trees and shrubbery and fade out

~~

T9B02 (D)

What might be happening when we hear a VHF signal from long distances?

- A. Signals are being reflected from outer space
- B. Someone is playing a recording to us
- C. Signals are being reflected by lightning storms in our area
- D. A possible cause is sporadic E reflection from a layer in
 the ionosphere

~~

T9B03 (B)

What is the most likely cause of sudden bursts of tones or fragments of different conversations that interfere with VHF or UHF signals?

- A. The batteries in your transceiver are failing
- B. Strong signals are overloading the receiver and causing
 undesired signals to be heard
- C. The receiver is picking up low orbit satellites
- D. A nearby broadcast station is having transmitter problems

~~

T9B04 (A)

What is the radio horizon?

- A. The point where radio signals between two points are blocked by the curvature of the Earth
- B. The distance from the ground to a horizontally mounted antenna
- C. The farthest point you can see when standing at the base of your antenna tower
- D. The shortest distance between two points on the Earth's surface

~~

T9B05 (D)

What should you do if a station reports that your signals were strong just a moment ago, but now they are weak or distorted?

- A. Change the batteries in your radio to a different type
- B. Speak more slowly so he can understand you better
- C. Ask the other operator to adjust his squelch control
- D. Try moving a few feet, random reflections may be causing multipath distortion.

~~

T9B06 (B)

Why do UHF signals often work better inside of buildings than VHF signals?

- A. VHF signals lose power faster over distance
- B. The shorter wavelength of UHF signals allows them to more easily penetrate urban areas and buildings
- C. This is incorrect; VHF works better than UHF inside buildings
- D. UHF antennas are more efficient than VHF antennas

~~

T9B07 (C)

What is a good thing to remember when using your hand-held VHF or UHF radio to reach a distant repeater?

- A. Speak as loudly as possible to help your signal go farther
- B. Keep your transmissions short to conserve battery power
- C. Keep the antenna as close to vertical as you can
- D. Turn off the CTCSS tone

~~

T9B08 (B)

What can happen if the antennas at opposite ends of a VHF or UHF line of sight radio link are not using the same polarization?

- A. The modulation sidebands might become inverted
- B. Signals could be as much as 100 times weaker
- C. Signals have an echo effect on voices
- D. Nothing significant will happen

~~

T9B09 (B)

What might be a way to reach a distant repeater if buildings or obstructions are blocking the direct line of sight path?

- A. Change from vertical to horizontal polarization
- B. Try using a directional antenna to find a path that reflects signals to the repeater
- C. Ask the repeater owners to repair their receiver
- D. Transmit on the repeater output frequency

~~

T9B10 (B)

What term is commonly used to describe the rapid fluttering sound sometimes heard from mobile stations that are moving while transmitting?

- A. Flip-flopping
- B. Picket fencing
- C. Frequency shifting
- D. Pulsing

~~

T9B11 (C)

Why do VHF and UHF Radio signals usually travel about a third farther than the visual line of sight distance between 2 stations?

- A. Radio signals move somewhat faster than the speed of light and travel farther in the same amount of time
- B. Radio waves are not blocked by dust particles
- C. The Earth seems less curved to radio waves than to light
- D. Radio waves are blocked by dust particles

~~

T9C Feedlines types, losses vs. frequency, SWR concepts, measuring SWR, matching and power transfer, weather protection, feedline failure modes 1 exam question

T9C01 (A)

What, in general terms, is standing wave ratio (SWR)?

- A. A measure of how well a load is matched to a transmitter
- B. The ratio of high to low impedance in a feed line
- C. The transmitter efficiency ratio
- D. An indication of the quality of your station ground connection

~~

T9C02 (C)

What reading on a SWR meter indicates a perfect impedance match between the antenna and the feed line?

- A. 2 to 1
- B. 1 to 3
- C. 1 to 1
- D. 10 to 1

~~

T9C03 (B)

What might be indicated by erratic changes in SWR readings?

- A. The transmitter is being modulated
- B. A loose connection in your antenna or feedline
- C. The transmitter is being over modulated
- D. Interference from other stations is distorting your signal

~~

T9C04 (A)

What is the SWR value where the protection circuits in most solid-state transmitters begin to reduce transmitter power?

- A. 2 to 1
- B. 1 to 2
- C. 6 to 1
- D. 10 to 1

~~

T9C05 (C)

What happens to the power lost in a feed line?

- A. It increases the SWR
 - B. It comes back into your transmitter and could cause damage
 - C. It is converted into heat by losses in the line
 - D. It can cause distortion of your signal
- ~~

T9C06 (D)

What instrument other than a SWR meter could you use to determine if your feedline and antenna are properly matched?

- A. Voltmeter
 - B. Ohmmeter
 - C. Iambic pentameter
 - D. Directional wattmeter
- ~~

T9C07 (A)

What is the most common reason for failure of coaxial cables?

- A. Moisture contamination
 - B. Gamma rays
 - C. End of service life
 - D. Overloading
- ~~

T9C08 (B)

Why is it important to have a low SWR in an antenna system that uses coaxial cable feedline?

- A. To reduce television interference
 - B. To allow the efficient transfer of power and reduce losses
 - C. To prolong antenna life
 - D. To keep your signal from changing polarization
- ~~

T9C09 (C)

What can happen to older coaxial cables that are exposed to weather and sunlight for several years?

- A. Nothing, weather and sunlight do not affect coaxial cable
- B. The cable can shrink and break
- C. Losses can increase dramatically
- D. It will short-circuit

~~

T9C10 (D)

Why is the outer sheath of most coaxial cables black in color?

- A. It is the cheapest color to use
- B. To see nicks and cracks in the cable
- C. Black cables have less loss
- D. Black provides protection against ultraviolet damage

~~

T9C11 (B)

What is the impedance of the most commonly used coaxial cable in typical amateur radio installations?

- A. 8 Ohms
- B. 50 Ohms
- C. 600 Ohms
- D. 12 Ohms

~~

T9C12 (A)

Why is coaxial cable used more often than any other feed line for amateur radio antenna systems?

- A. It is easy to use and requires few special installation considerations
- B. It has less loss than any other type of feedline
- C. It can handle more power than any other type of feedline
- D. It is less expensive than any other types of line

~~

SUBELEMENT T0 Electrical and RF Safety 3 exam questions 3 groups

T0A AC power circuits, hazardous voltages, fuses and circuit breakers, grounding, lightning protection, battery safety, electrical code compliance 1 exam question

T0A01 (B)

What is a commonly accepted value for the lowest voltage that can cause a dangerous electric shock?

- A. 12 volts
- B. 30 volts
- C. 120 volts
- D. 300 volts

~~

T0A02 (B)

What is the lowest amount of electrical current flowing through the human body that is likely to cause death?

- A. 10 microamperes
- B. 100 milliamperes
- C. 10 amperes
- D. 100 amperes

~~

T0A03 (C)

What is connected to the green wire in a three-wire electrical plug?

- A. Neutral
- B. Hot
- C. Ground
- D. The white wire

~~

T0A04 (B)

What is the purpose of a fuse in an electrical circuit?

- A. To make sure enough power reaches the circuit
- B. To interrupt power in case of overload
- C. To prevent television interference
- D. To prevent shocks

~~

T0A05 (C)

What might happen if you install a 20-ampere fuse in your transceiver in the place of a 5-ampere fuse?

- A. The larger fuse would better protect your transceiver from using too much current
- B. The transceiver will run cooler
- C. Excessive current could cause a fire
- D. The transceiver would not be able to produce as much RF output

~~

T0A06 (D)

What is a good way to guard against electrical shock at your station?

- A. Use 3-wire cords and plugs for all AC powered equipment
- B. Connect all AC powered station equipment to a common ground
- C. Use a ground-fault interrupter at each electrical outlet
- D. All of these answers are correct

~~

T0A07 (C)

What is the most important thing to consider when installing an emergency disconnect switch at your station?

- A. It must always be as near to the operator as possible
- B. It must always be as far away from the operator as possible
- C. Everyone should know where it is and how to use it
- D. It should be installed in a metal box to prevent tampering

~~

T0A08 (D)

What precautions should be taken when a lightning storm is expected?

- A. Disconnect the antenna cables from your station and move them away from your radio equipment
- B. Unplug all power cords from AC outlets
- C. Stop using your radio equipment and move to another room until the storm passes
- D. All of these answers are correct

~~

T0A09 (C)

What is one way to recharge a 12-volt battery if the commercial power is out?

- A. You cannot recharge a battery unless the power is back on
- B. Add water to the battery
- C. Connect the battery to a car's battery and run the engine
- D. Take your battery to the utility company for a recharge

~~

T0A10 (D)

What kind of hazard is presented by a conventional 12-volt storage battery?

- A. It contains dangerous acid that can spill and cause injury
- B. Short circuits can damage wiring and possibly cause a fire
- C. Explosive gas can collect if not properly vented
- D. All of these answers are correct

~~

T0A11 (A)

What can happen if a storage battery is charged or discharged too quickly?

- A. The battery could overheat and give off dangerous gas or explode
- B. The terminal voltage will oscillate rapidly
- C. The warranty will be voided
- D. The voltage will be reversed

~~

T0A12 (C)

What is the most important reason to have a lightning protection system for your amateur radio station?

- A. Lower insurance rates
- B. Improved reception
- C. Fire prevention
- D. Noise reduction

~~

T0A13 (D)

What kind of hazard might exist in a power supply when it is turned off and disconnected?

- A. Static electricity could damage the grounding system
- B. Circulating currents inside the transformer might cause damage
- C. The fuse might blow if you remove the cover
- D. You might receive an electric shock from stored charge in large capacitors

~~

T0B Antenna installation, tower safety, overhead power lines 1
exam question

T0B01 (C)

Why should you wear a hard hat and safety glasses if you are on the ground helping someone work on an antenna tower?

- A. It is required by FCC rules
- B. To keep RF energy away from your head during antenna testing
- C. To protect your head and eyes in case something accidentally falls from the tower
- D. It is required by the electrical code

~~

T0B02 (C)

What is a good precaution to observe before climbing an antenna tower?

- A. Turn on all radio transmitters
- B. Remove all tower grounding connections
- C. Put on your safety belt and safety glasses
- D. Inform the FAA and the FCC that you are working on a tower

~~

T0B03 (D)

What should you do before you climb a tower?

- A. Arrange for a helper or observer
- B. Inspect the tower for damage or loose hardware
- C. Make sure there are no electrical storms nearby
- D. All of these answers are correct

~~

T0B04 (B)

What is an important consideration when putting up an antenna?

- A. Carefully tune it for a low SWR
- B. Make sure people cannot accidentally come into contact with it
- C. Make sure you discard all packing material in a safe place
- D. Make sure birds can see it so they don't fly into it

~~

T0B05 (A) [97.15(A)]

What must be considered when erecting an antenna near an airport?

- A. The maximum allowed height with regard to nearby airports
- B. The possibility of interference to aircraft radios
- C. The radiation angle of the signals it produces
- D. The polarization of signal to be radiated

~~

T0B06 (D)

What is the most important safety precaution to observe when putting up an antenna tower?

- A. Install steps on the tower for safe climbing
- B. Insulate the base of the tower to avoid lightning strikes
- C. Ground the base of the tower to prevent lightning strikes
- D. Look for and stay clear of any overhead electrical wires

~~

T0B07 (D)

How should the guy wires for an antenna tower be installed?

- A. So each guy wire anchor point has an even number of wires
- B. So that no guy wire is more than 25 feet long
- C. Each guy wire must be pulled as tight as possible
- D. In accordance with the tower manufacturer's instructions

~~

T0B08 (D)

What is a safe distance from a power line to allow when installing an antenna?

- A. Half the width of your property unless the wires are at least 23 feet high
- B. 12.5 feet in most metropolitan areas
- C. 36 meters plus 1/2 wavelength at the operating frequency
- D. So that if the antenna falls unexpectedly, no part of it can come closer than 10 feet to the power wires

~~

T0B09 (D)

What is the most important safety rule to remember when using a crank-up tower?

- A. This type of tower must never be painted
- B. Crank up towers must be raised and lowered frequently to keep them properly lubricated
- C. Winch cables must be specially rated for use on this type of tower
- D. A crank-up tower should never be climbed unless it is in the fully lowered position

~~

T0B10 (C)

Why is stainless steel hardware used on many antennas instead of other metals?

- A. Stainless steel is a better electrical conductor
- B. Stainless steel weighs less than other metals
- C. Stainless steel parts are much less likely to corrode
- D. Stainless steel costs less than other metals

~~

T0B11 (C)

What is considered to be an adequate ground for a tower?

- A. A single 4 foot ground rod, driven into the earth no more than 12 inches from the base
- B. A screen of 120 radial wires
- C. Separate 8 foot long ground rods for each tower leg, bonded to the tower and each other
- D. A connection between the tower base and a cold water pipe

~~

T0C - RF hazards, radiation exposure, RF heating hazards, proximity to antennas, recognized safe power levels, hand held safety, exposure to others - 1 exam question

T0C01 (D)

What type of radiation are VHF and UHF radio signals?

- A. Gamma radiation
- B. Ionizing radiation
- C. Alpha radiation
- D. Non-ionizing radiation

~~

T0C02 (B)

When can radio waves cause injury to the human body?

- A. Only when the frequency is below 30 MHz
- B. Only if the combination of signal strength and frequency cause excessive power to be absorbed
- C. Only when the frequency is greater than 30 MHz
- D. Only when transmitter power exceeds 50 watts

~~

T0C03 (C) [97.13(C)(1)]

What is the maximum power level that an amateur radio station may use at frequencies above 30 MHz before an RF exposure evaluation is required?

- A. 1500 watts PEP transmitter output
- B. 1 watt forward power
- C. 50 watts PEP at the antenna
- D. 50 watts PEP reflected power

~~

T0C04 (D)

What factors affect the RF exposure of people near an amateur transmitter?

- A. Frequency and power level of the RF field
- B. Distance from the antenna to a person
- C. Radiation pattern of the antenna
- D. All of these answers are correct

~~

T0C05 (D)

Why must the frequency of an RF source be considered when evaluating RF radiation exposure?

- A. Lower frequency RF fields have more energy than higher frequency fields
- B. Lower frequency RF fields do not penetrate the human body
- C. Higher frequency RF fields are transient in nature and do not affect the human body
- D. The human body absorbs more RF energy at some frequencies than others

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T0C06 (D) [97.13(c)(1)]

How can you determine that your station complies with FCC RF exposure regulations?

- A. By calculation based on FCC OET Bulletin 65
- B. By calculation based on computer modeling
- C. By measurement of field strength using calibrated equipment
- D. All of these choices are correct

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T0C07 (B)

What could happen if a person accidentally touched your antenna while you were transmitting?

- A. Touching the antenna could cause television interference
- B. They might receive a painful RF burn injury
- C. They would be able to hear what you are saying
- D. Nothing

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T0C08 (D)

What action might amateur operators take to prevent exposure to RF radiation in excess of FCC supplied limits?

- A. Alter antenna patterns
- B. Relocate antennas
- C. Change station parameters such as frequency or power
- D. All of these answers are correct

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T0C09 (B)

How can you make sure your station stays in compliance with RF safety regulations?

- A. Compliance is not necessary
- B. By re-evaluating the station whenever an item of equipment is changed
- C. By making sure your antennas have a low SWR
- D. By installing a low pass filter

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T0C10 (A)

Which of the following units of measurement is used to measure RF radiation exposure?

- A. Milliwatts per square centimeter
- B. Megohms per square meter
- C. Microfarads per foot
- D. Megahertz per second

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T0C11 (A)

Why is duty cycle one of the factors used to determine safe RF radiation exposure levels?

- A. It takes into account the amount of time the transmitter is operating
- B. It takes into account the transmitter power supply rating
- C. It takes into account the antenna feed line loss
- D. It takes into account the thermal effects of the final amplifier

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