Amateur Wireless Station Operators License Exam

Study material 2017

SECTION-B

CHAPTER 8

Chapter 8: Radio Regulations

THE INDIAN WIRELESS TELEGRAPH ACT 1973

The Indian Wireless Telegraph Rules governs the use of wireless devices in India. The act was first drafted in 1949, and then in 1973. It also incorporates clauses from the Indian Telegraph Act, 1885.

MINISTRY OF COMMUNICATIONS
(W.P.C.WING)
New Delhi the 23rd April, 1973

G.S.R.526: In exercise of powers conferred by section 7 of the Indian Telegraph Act, 1885 (13 of 1885) and in super session of the Indian Wireless Telegraph Rules, 1949, the Central Government hereby makes the following rules to regulate the conduct of wireless telegraphs established, maintained and worked by persons licensed under the said Act, namely:-

1. Short title and commencement: (1) these rules may be called the Indian Wireless Telegraph rules, 1973.

(2) They shall come into force on the 1st Sept.1973.

2. Definitions:- In these rules, unless the context otherwise requires:-

(a) 'Certificate of proficiency' and 'License' mean a certificate and a license to operate wireless telegraphy granted or recognized by the Central Government under the Indian Wireless Telegraphy (Commercial Radio Operators Certificate of Proficiency and License to Operate Wireless Telegraphy) rules, 1954, as amended from time to time;

(b) 'Convention' means the International Telecommunication Convention, Montreux, 1965 for the time being in force and the Radio Regulations and the Additional Radio Regulations annexed thereto but does not include any portion of the said Convention or Regulations regarding which the Central Government makes any reservation from time to time;

(c) 'Harbor' includes a harbor (whether natural or artificial), estuary, navigable river, pier, jetty and any other work in or at which a ship can obtain shelter, or ship or unship goods or passengers.

(d) 'territorial waters' comprise-

(i) the littoral or marginal sea;
(ii) inlets exhibiting a well marked configuration such as gulfs and base and inland seas, and

(iii) straits not exceeding twelve nautical miles measured from the appropriate base line.

(e) 'aeronautical station', 'aircraft station', 'coast station', 'distress call', 'Distress message', 'distress signal', 'fixed station', 'land station', 'mobile station', 'port station', 'radio navigation service', ' safety call', 'safety message', 'safety signal', 'ship station', 'station', 'urgency' call', 'urgency message' and 'urgency signal' shall have the meanings respectively assigned to them in the Convention.

3.Right to work transmitting apparatus:-

Except as provided in the Convention or these rules or with the general or special permission in writing of the Central Government, no person shall work the transmitting apparatus of a wireless telegraph licensed under the Indian telegraph Act, 1885, unless:-

(i) he is a citizen of India,
(ii) he is 18 yrs of age or above, and
(iii) he holds a 'certificate of Proficiency' and 'License' of the class specified in the license to establish maintain and work wireless telegraph and is duly authorized by the licensee.

Provided that if the service of any ship or aircraft radiotelephone station is controlled by a

person holding a 'Certificate of Proficiency' and 'License', any person not holding such certificate of Proficiency and License may be permitted to use the radiotelephone equipment.

4.Observance of Convention, rules under the Indian Telegraph Act, 1885, and agreements – Except as provided in these rules:-

(i) the provisions of the convention;
(ii) the rules made by the Central Government under section 7 of the Indian Telegraph Act, 1885 (13 of 1885) for the conduct of wireless telegraphs; and
(iii) any bilateral or multilateral telecommunication agreements to which Central Government has acceded and which are duly notified in the Official Gazette; shall be observed, in so far as they are applicable:

5.Observance of secrecy of correspondence:- The receiving apparatus of any wireless telegraph shall not be used for any unauthorized reception or interception of wireless telegraph communications. If in the course of the operation of wireless telegraphy any message is involuntarily received, the divulgence of its contents, simple disclosure of its existence, publication on any use whatever, of information obtained by the interception is prohibited.

6. Identification of stations:- No station shall use identification which is not authorized by the Central Government nor make transmissions without identification or with false identification.

7. Misuse of International distress signal abbreviations or signals forbidden:- No person shall use the International distress, urgency or safety signals or any other signal that might be confused with the International distress, urgency or safety signals except to indicate the respective conditions attributed to them in the Radio Regulations.

8.Prevention of harmful interference:-No person shall work or use an apparatus of a wireless telegraph in such a manner which endangers the functioning of radio navigation service or of other safety service or seriously degrades, obstructs or repeatedly interrupts, by its emission, radiation or induction, any wireless telegraph service functioning, within or without India, in accordance with the provisions of the Convention or the wireless signaling between any fixed, land or mobile stations of Indian Land, Naval, or Air Force or between such stations and any station abroad.
9.Restriction on sending of messages:- Except as provided in the rules or with the general or special permission in writing of the Central Government no person shall send any message by means of a wireless telegraph on.

(i) any ship (other than a ship of the Indian Defense Services) whilst the ship is within Indian territorial waters when and where such messages can be passed through the coast station of the Central Government open for public correspondence:

(ii)any aircraft (other than a aircraft of Indian Defense Services) whilst the aircraft is within or above Indian territories or Indian territorial waters when and where such messages can be forwarded by a telegraph of the Central Government.

Provided that nothing in the rule shall apply for the purpose of making or answering bona fide urgency calls or urgency messages or bona fide safety calls or safety messages.

10.Restrictions on working or using transmitting apparatus:- (1) except as provided in these rules or with the general or special permission in writing of the Central Government, no person shall work or use the transmitting apparatus of a wireless telegraph on:-

(i) any ship (other than a ship of Indian Defense Services) whilst the ship is in any harbor in India: Provided:

(a) that the ship may work and use its VHF radiotelephone apparatus for the sole purpose of exchanging messages with the nearest Indian coast station or Indian Port Station:

(b) that the ship may work and use its radar apparatus for the purposes of radio navigation.

(c) That a wireless telegraph may be worked and used on the ship which is underway in the river Hoogly below garden reach for the sole purpose of exchanging messages with Calcutta radio:

(ii) any aircraft (other than an aircraft or Indian Defense Services) within or above Indian territories or Indian territorial waters except during actual flight or in case of forced landing, and then only for transmitting messages necessary for the conduct of the flight or air service:

(a) in communication in accordance with the instructions of the Director General of Civil Aviation in India relating to aeronautical services with stations in India affording such services, or

(b) when entering or leaving Indian territories or Indian territorial waters, in communication with stations in countries adjacent to India affording aeronautical services:

Provided that an aircraft within, above or outside Indian territories may, in cases of urgency, when the aircraft is not in reliable communication with an aeronautical station, communicate with a ship or aircraft anywhere, if the commander of the former aircraft considers that such communication is essential for the safety of his aircraft:

(2) Nothing in this rule shall apply for the purpose of making or answering bona fide urgency calls or urgency messages or bona fide safety calls or safety messages:

11.Authority of the master:- The service of a mobile station including operators shall be under the supreme authority of the master or of the person responsible for the ship, aircraft or other vehicle carrying the mobile station the person holding this authority shall ensure that the station is worked or used in accordance with the provisions of the license issued under section 4 of the Indian telegraph Act, 1885 (13 of 1885).

12. Penalty for breach of rules:- Any breach of these rules other than a breach which is an offense under section 20 or section 21 of the Indian telegraph Act, 1885 (13 of 1885), shall be punishable with fine which may extend:

(i) when the person is licensed under the Indian telegraph Act, 1885 up to Rs.1,000/- and in the case of continuing breach of a further fine of Rs.200/- for every day after the first during the whole or any part of which the breach continues;

(ii) when a servant of the person so licensed, or any other person, is punishable for the breach, to one fourth of the amount specified in clause (i)

13. Exception: Nothing in these rules shall prevent the use of wireless telegraph for the purpose of making or answering bona fide distress calls or distress messages in any manner thought fit.

THE INDIAN WIRELESS TELEGRAPH (AMATEUR SERVICE) RULES, 1978

Amendment Rules, 1984 - G.S.R.No.1225/84,
Amendment Rules, 2005 – GSR 280(E) dt 1-4-2010

G.S.R. No. 1499/78.- In exercise of the powers conferred by section 4 and section 7 of the Indian Telegraph Act, 1885 (13 of 1885), the Central Government hereby makes the following rules for the conduct of wireless telegraphs in the amateur service, established, maintained, and worked by persons licensed under the said Act.

1. Short title and commencement:

(1) These rules may be called the Indian Wireless Telegraphs (Amateur Service) Rules, 1978.
(2) They shall come into force on the 17th October, 1984.

2. Definitions :

In these rules, unless the context otherwise requires,-

a) `Act' means the Indian Telegraph Act, 1885 (13 of 1885)

b) `amateur service' means a service of self training, inter-communication and technical investigations carried on by amateurs that is, by persons duly authorized under these rules interested in radio technique solely with a personal aim and without pecuniary interest; `amateur station', and `station' shall have the meaning respectively assigned to them in the Convention;

c) `Amateur Radio Beacon' means a station in the Amateur Service having transmitter (s) emitting carrier wave along with identification signals at regular interval. Such beacons can be directional or non-directional;

d) `Amateur Station', and "Amateur Satellite Service" `Station' shall have the meaning respectively assigned to them in the Convention;

e) `Convention' means the International Telecommunication Convention, Malaga=Torremolinos, 1973, for the time being in force and the Radio Regulations and the Additional Radio Regulations annexed thereto but does not include any portion of the said Convention or Regulations regarding which the Central Government makes any reservation;

f) `License' means a license granted under section 4 of the Act for an amateur wireless telegraph station.

3. Necessity for license :

No person shall establish, maintain and work an amateur wireless telegraph station except under and in accordance with the terms and conditions of an appropriate license under these rules.

4. Categories of license :

There shall be TWO categories of licenses, namely :

(i) Amateur Wireless Telegraph Station License (GENERAL)
(ii) Amateur Wireless Telegraph Station License, (RESTRICTED)

5. Eligibility for license :

(1) A license may be granted subject to such conditions contained in Annexure I to these rules -

(i) to a person,-
(a) who is a citizen of India;
(b) who is not less than 18 years of age;
(c) who qualifies the Amateur Station Operators' Examination for the award of license or holds either of the following certificate of proficiency, namely:

(i) Radio-communication Operators' General Certificates;
(ii) First or Second Class Radio-telegraph Operators' Certificate;

Provided that the holder of a Special Radio Telegraph Operator's Certificate may also be considered eligible for the award of Amateur Wireless Telegraph Station License RESTRICTED.

(iii) to a bonafide amateur radio society, club or a school, college, or an institution or a university in India, which has the aim of investigations in the field of radio or the training of persons in radio communication techniques.

Provided that the license shall be issued in the name of an authorized official of the society, club, school, college, institute or a University in India holding a category of license appropriate to the transmissions to be conducted by the station including amateur radio beacon transmission.

(2) Notwithstanding anything contained in sub-clause (b) of clause (i) of sub-rule (1), the Central Government may grant, to bonafide experimenters between the ages of 14 and 18 years,

Amateur Wireless Telegraph Station License GENERAL and to those between the ages of 12 and 18 years, Amateur Wireless Telegraph Station License, Grade RESTRICTED.

(3) Notwithstanding anything contained in sub-clause (c) of clause (i) of sub-rule (1), the Central Government may recognize, subject to any conditions it may prescribe from time to time, such other radiotelegraph operators' certificates or Amateur Station Operators' Certificates as are issued by a competent authority in any other country as equivalent to qualifications referred to in aforesaid sub-rule for the purpose of grant of license under these rules.

6. An application for license :

An application for the grant of license from:
(a) an individual, or
(b) an Amateur Radio Society or club or a school, college or an institute or a University in India-

shall be made to the Central Government in Annexure II or Annexure III respectively to these rules, shall be made to the Central Government in Annexure II or Annexure III respectively to these rules, together with all the subsidiary forms and documents duly filled in and completed in all respects.

7. Eligibility for admission to amateur station Operators Examination :

No person shall be eligible for admission to an examination for the grant of license unless :-

(a) such a person fulfills the provisions contained in sub-clauses (a), (b) and (c) of clause (i) of sub-rule (1) of rule 5;
(b) such person pays the fees on the following scale, namely :-

(i) Amateur Wireless Telegraph Station License (GENERAL)……. Rs. 100.00
(ii) Amateur Wireless Telegraph Station License, (RESTRICTED)….. Rs. 100.00

(c) a period of at least one month has elapsed since he lastly appeared in an examination and failed

8. Examinations :

(1) The examinations for the grant of a license shall be held at a place and on a date as may be notified by the Central Government from time to time.

(2) An application for license in Annexure-II to the rules shall be submitted not later than one month before the date of desired examination.

(3) Any person admitted to the examination and found guilty of impersonation or of submitting fabricated documents or documents which have been tampered with or of making statements which are incorrect or false or of suppressing material information or of using or attempting to use unfair means in the examination hall or otherwise resorting to any other irregular or improper means for obtaining admission to the examination may, in addition to rendering himself liable to criminal prosecution, be debarred either permanently or for a specified period from appearing in any of the examinations held for the award of license under these rules:

Provided that no order under this sub-rule shall be made unless the person concerned has been given a reasonable opportunity or making a representation against the action proposed to be taken.

(4) If any person is found guilty of any malpractice referred to in sub-rule (3) after the grant of a license to such person, the Central Government may, in addition to prosecuting him cancel the license so given :

Provided that the Central Government may, pending the cancellation of the license, suspend or endorse such license :

Provided further that no order under this sub-rule shall be made unless the person concerned has been given a reasonable opportunity of making a representation against the action proposed to be taken.

9. Grant of license :
Every category of license shall be in the form set out in Annexure IV to these rules.

10. Observance of conditions of license, Convention and rules under the Act :
(1) Every licensed amateur wireless telegraph station shall be established, maintained and worked in

accordance with -
(a) the conditions contained in Annexure I to these rules;
(b) the provisions of the Convention;
(c) the rules made by the Central Government under section 7 of the Act for the conduct of wireless
telegraphs in so far as they are applicable.

(2) Notwithstanding sub-rule (1) the Central Government may modify, vary, cancel or revoke any of the conditions of license contained in the said Annexure I at any time either by specific notice in writing to the licensee, or by means of a general notice published in the Official Gazette or in a newspaper published in New Delhi.

(3) The licensee shall at his own expense, give effect to any variations in the conditions of license,

11. Period of validity :

A license granted under these rules shall be issued for a period of 2 years or 5 years, as the case may be, commencing on the date of issue of the license and expiring on the last day of the month preceding the month of issue.

12. Fee for license:

A license fee on the following scale shall be payable to the Central Government on receipt of instructions from that Government and in the manner directed bv it:-

Category of license	Validity	
	20 YEARS	Lifetime
(i) Amateur Wireless Telegraph Station License (GENERAL)	1000.00	2000.00
(ii) Amateur Wireless Telegraph Station License (RESTRICTED)	1000.00	2000.00

(2) The license fee shall not be refundable on ground of licensee's inability to establish or make use of the licensed Amateur Wireless Telegraph Station or for adjustment towards higher category of license.

13. Authorized frequency bands, power and emission :

A holder of license shall use, as appropriate to the license, such frequency bands, power and classes of emission as are set out in Annexure V of these rules : Provided that the Central Government may by special or general order make changes in the usage of frequency bands, power and types of emission where that Government is satisfied, that it is expedient to do so, keeping in view, among others, the provisions of the Convention, need for enforcement of better technical standards in respect of equipment and national and international radio interference pattern.

14. Renewal of license :

(1) On the expiry of the validity of a license, it may be renewed for a period of twenty years, if the licensee,-

(a) makes an application for renewal at least two months before the date of expiry of the licensee,

(b) has actively operated his station during the past two years prior to the date of expiry of his license and provides a certificate to the effect that he has made contacts with other amateur stations on at least 40 occasions per year; and in the case of short Wave Listener has intercepted amateur station on at least 40 occasions per year.

(c) Pays a fee of Rs. 1000/-

(2) The license fee shall not be refundable on ground of licensee's inability to establish or make use of the licensed Amateur Wireless Telegraph Station or for adjustment towards higher category of license.

(3) The document showing the renewal of license issued by the Central Government shall be kept along with the license to which it refers.

(4) It shall not be obligatory for the Central Government to issue a notice that the license is due for renewal.

15. Surcharge for late renewal :

In case the holder of a license does not apply for its renewal prior to the date of expiry of the license referred to in sub-rule (1) of rule 14, he may apply for the renewal of license subsequently also but within a period of five years after the date of expiry of the license on payment of a surcharge at the rate of Rs.100/- for every half-year or part thereof. The license in such a case, shall be renewed from the date of expiry of the license..

16. Register for wireless telegraphy apparatus :

Every licensee shall maintain a register in respect of all wireless telegraphy apparatus established, maintained and worked by him at the amateur station in the form set out in Annexure VI of these rules.

17. Location of Amateur Station :

The location of the amateur station shall be specified in the license along with the usual residence of the licensee endorsed therein and it shall be operated only from the place so fixed. Provided that the Central Government may, permit the change of location if the licensee applies for it in writing giving particulars of the change and submits the license for endorsement, and pays a fee of rupees TWO HUNDRED.

18. Portable and mobile amateur station :

Without prejudice to rule 17, the Central Government may in addition to an amateur station licensed for a specified location issue a special authorization to establish, maintain and work an amateur station as a portable station or a mobile station fixed on board a motor vehicle for a specific period in special occasions like exhibitions and jamborees or for specific technical investigations in radio if-

(i) application for such authorization is made well in advance indicating, among others, the specific period for which the authorization is required, nature of investigations or details in regard to occasion as the case may be, and area of operation ; (ii) the applicant holds an Amateur Wireless Telegraph Station License GENERAL; (iii) the applicant pays an additional fee of Rs.200/-.

(2) The special authorization shall, in addition to the conditions specified in rule 10, be subject to following, namely:-

(i) The special authorization shall not be issued for a period more than 90 days. (ii) The licensee's amateur station at the fixed location and the mobile station shall not communicate with each others; (iii) the suffix `MO' shall be added to the call-sign already authorized to the licensee's amateur station at the fixed location for use by the portable or mobile station. Such call sign shall be followed by the location of the station. (iv) Such other conditions as the Central Government may determine from time to time.

(3) The special authorization may be withdrawn or the conditions contained therein varied at any time by the Government.

19. Amateur Station on board ship :

(1) Without prejudice to rule 17, the Central Government may on receipt of an application authorize establishment, maintenance and working of an amateur station on board a ship registered in India. Applications for such authorization shall be accompanied by a written approval of the master or owners of the ship concerned.

(2) The establishment, maintenance and working of amateur stations on board ships shall, in addition to the conditions specified under rule 10, be subject to such other conditions as the Central Government may determine from time to time and such conditions, among others, shall include the following, namely :-

(i) The amateur station on board ship shall be operated only while the ship is in International waters or Indian territorial waters. Its operation within the territorial waters of another country shall be in conformity with laws and regulations of the country concerned. (ii) It shall not be operated whilst the ship is in any harbor in India.

(iii) The call-sign allotted to such stations shall have suffix `MS' followed by the call-sign of the ship in case of radiotelegraphy or the official name of the ship in case of radio-telephony. (iv) The amateur station on board a ship shall discontinue operation at any time on request of an officer of the Central Government, the Master or Radio Officer of the ship or any land station.

20. Loss and Issue of Duplicate of License and Document showing the Renewal of License :

(1) A person whose License or the document showing the renewal of license has been lost, mutilated or destroyed shall notify the same to the Central Government. An application in Annexure VII of these rules for the duplicate shall be made to the Central Government embodying a statement of the circumstances involved in the loss, mutilation or destruction of the license or the document showing the renewal of license for which a duplicate is required. If the license or the document showing the renewal of license has been lost, the applicant must state the circumstance in which it was lost and the reasonable search has been made for it, and further that in the event it be found, either the original or the duplicate shall be returned for cancellation. The mutilated license or the document showing the renewal of license for which the duplicate is required should be forwarded along with the application for cancellation.

(2) The Central Government may issue duplicate copy of any license or the document showing the renewal of the license and the following charges shall be levied for such issue-

(i) For duplicate of license . . …… Rs. 100.00

(ii) For duplicate of the document showing the renewal of license…… Rs. 100.00

21. Revocation of license :

(1) The Central Government may, at any time, revoke the license-
(i) On the breach of any of the conditions of license contained in Annexure I; or

(ii) In default of payment of any fees payable under these rules :

Provided that, before revoking a license, the license shall be given a reasonable opportunity of making a representation against the action proposed to be taken.
(2) The licensee shall not be entitled to any compensation arising out of revocation of his licence nor will any part of the fees paid for the license shall be refunded for the period a license stands revoked.

22. Transfer of license :

A license shall not be transferable :
Provided that the Central Government may permit the transfer of a license granted to an authorized official of an amateur radio society or club or a school, college or an institute or a University in India in favor of his successor if such successor holds a category of license appropriate to the transmissions to be conducted by the amateur station.

23. Operation of licensed amateur station :

No person other than the licensee shall be emitted to operate the licensed amateur station :

Provided that -
(a) in the presence of the licensee himself, the station may be operated by an other person holding a valid license of comparable or higher category. The licensee, however, shall be personally responsible for the observance of these rules as if the station is operated by him.

(b) in case of a license issued to an authorized official of an amateur radio society or club or a school, college, or an institution or a University in India, the station may also be operated by a person who holds a license of equivalent or higher category with the prior permission of the Central Government in writing; if the licensee keeps personal surveillance over the operation of the station. The licensee shall be responsible for the observance of these rules.

24. Surrender of license :

A license which is revoked or which has become invalid and licensee does not desire to renew it shall be surrendered to the Central Government for cancellation and record.

25. Dual holding of license :

No person shall be granted more than one license at the same time :

Provided that the Central Government may exempt a person, holding a license in his name for amateur radio society or a school, college or an institute or a university in India, from the operation of this rule.

26. Admission of foreign national to examination and grant of license :

(1) Notwithstanding anything contained in these rules, the Central Government may, subject to such terms and conditions as it may impose from time to time, admit a person, who is not a citizen of India, to an examination for the grant of a license or grant him a license if otherwise qualified.

(2) The conditions under sub-section (1) shall, among others, include the following, namely :-

(i) the country of which the applicant is citizen, grants reciprocal facilities to Indian nationals :

Provided that it shall not apply where the Central Government considers that reciprocal facilities are not necessary ;

(ii) the applicant is above the age of 18 years;

(iii) the applicant's stay in India is not likely to be less than one year from the date of application.

(iv) the applicant is a holder of an appropriate category of amateur station operator's certificate or license issued by a competent authority in any other country and recognized by the Central Government.

(v) the license under this rule shall be initially granted for a period of one year or for the period of validity of visa, for which the applicant's passport is endorsed, whichever is less.

27. Penalty for breach of these rules :

Any breach of these rules, other than a breach which is an offense under section 20 or 21 of the Act, shall be punishable with fine which may extend -

(i) when the person is licensed under the Act, to one thousand rupees and in the case of continuing breach a further fine of two hundred rupees for every day after the first during the whole of any part of which the breach continues;

(ii) when a servant of the person so licensed or another person is punishable for the breach one fourth of the amounts specified in clause (i).

28. Repeal and saving :

(1) On the commencement of these rules, the Indian Wireless Telegraphy (Amateur Service) Rules, 1958, shall cease to be in force.

(2) Notwithstanding such cesser,-

(a) Where before such commencement any person has passed the Amateur Station Operators' Certificate GENERAL or RESTRICTED Examination, such person shall not be required to pass any such examination under these rules;

(b) Where, before such commencement any person was granted Amateur Wireless Telegraph Station License Grade I, or any such License was renewed and the period for which such License was granted or renewed extends beyond the commencement of these rules, then, such License shall continue to be in force for the period specified in the License.

ANNEXURE I
CONDITIONS FOR THE CONDUCT OF AN AMATEUR TELEGRAPH STATION
(See rules 5 & 10)

I. Use of the Amateur Station :

(1) The amateur station shall be used as part of self training, intercommunication and technical investigations in radio techniques solely with a personal aim and without pecuniary interest :

Provided that when the station is licensed to an amateur radio society or club, or a school, college or an institute or a University, the use of the station "shall be" confined to technical investigation and training in radio communication techniques without pecuniary interest.

(2) The station may also be used for the purpose of receiving transmissions in the Standard Frequency Service to facilitate operation of the station within the authorised frequency bands.

(3) Except as provided in these rules, the licensee shall not assign, under-let or otherwise dispose off or admit any person to participate in the benefits of the license.

II. Messages :

(1) (a) Radio communications may be exchanged with other stations similarly authorized. The amateur stations are forbidden to communicate with amateur stations of countries whose administrations have notified the International Telecommunication Union of their objection to

such radio communications.

(b) Transmissions shall be made in plain language and limited to messages of a technical nature relating to tests and to remarks of personal character (excluding business affairs or transactions) in which the licensee, or the person with whom he is in communication, are directly concerned and for which, by reason of their unimportance, recourse to the public telecommunication service is not justified.

(c) Special recordings for reproduction sinusoidal tone or tones within the audio spectrum which may be either constant or steadily changing in frequency may be used.

(2) The licensee is forbidden to transmit,-

(a) messages like the reproduction of broadcast programmes or tape recordings or transmissions of entertainment value or music;

(b) false or misleading calls, or signals, news, advertisements, communications of business, statements on topics of political or industrial controversy;

(c) superfluous signals or any matter which is indecent or of obscene character or of a seditious tendency or which is grossly offensive or such as is likely to arouse racial, religious, or communal animosity;

(d) messages for pecuniary reward or any messages for, or on behalf of third parties;

(3) Notwithstanding clause (a), sub-condition (1) and clause (d), sub-condition (2) the licensees in case of failure of normal telecommunication facilities, are permitted to handle third party messages, pertaining to natural calamities such as earthquake, floods, cyclones and wide spread fires, originating from and addressed to a competent civil authority namely, (a) District Magistrates or Deputy Commissioners or Collectors of the district and (b) any other officer authorized by authorities mentioned at (a) above. The licensee shall inform by letter addressed to the licensing authority regarding the use of his amateur station for such purposes on each such occasions.

III. Frequencies, Emissions and Power :

The amateur station shall be operated on frequencies that are within the frequency bands authorized to respective categories of licenses under rule 13 and on such classes of emissions and power not exceeding that specified in the said rule.

IV. Frequency Control and Measurement :

(1) The transmitting apparatus shall be tuned as accurately as possible to ensure that no energy is radiant on any frequency outside the limits of the authorized frequency bands.

(2) The licensee shall have at the licensed amateur station a reliable frequency measuring equipment to verify, each time the frequency of the transmitter is changed and whenever it is necessary to check the transmitted frequency, the emissions are within the authorized frequency bands. The licensee shall take all steps necessary to maintain the accuracy of the frequency measuring equipment.

V. Non-Interference :

(1) The amateur station shall be so designed, constructed, erected, maintained and worked as not to cause interference with any wireless telegraph service functioning, within or without India, in accordance with the provisions of the Convention or the wireless signaling between any fixed, land or mobile stations of Indian Land, Naval or Air Force or between such stations and any station abroad :

Provided that in the event of interference being caused by the station the licensee shall

discontinue or restrict transmissions, pending adjustment of the equipment, on request from,-

(a) the Central Government; or (b) any land station.

(2) The licensee shall deploy all necessary means to ensure that the radiated frequency is free from harmonics, key clicks, hum and other forms of spurious emissions.

(3) The licensee shall ensure that the transmitter is not over modulated.

(4) The use of class B emissions (damped waves) is forbidden.

VI. Log (Dairy of the radio service) :

(1) A chronological record of all transmissions emanating from or received at the amateur station shall be kept in bound book (not loose-leaf) showing the following :

(a) Date and time of each transmission;
(b) a summary of the communications exchanged;
(c) a brief description of the experiments and tests undertaken;
(d) the call sign of station or stations with which messages have been exchanged, times and type of emission employed in each case;
(e) time of opening and closing down the amateur station;
(f) in case of portable or mobile amateur station the particulars of temporary location.

(2) All times in the log shall be stated in the Indian Standard Time.

(3) No gaps shall be left between entries in the log and they shall be made and initialed at the time of receiving and transmitting.

(4) In case the station is operated by a person other than the licensee (see rule 23), the licensee shall ensure that log is signed by that person indicating his name, call sign and license number.

(5) Licensee shall preserve the log for a period of one year from the date of last entry therein before it is destroyed: Provided that no log shall be destroyed for such further period as the Central Government may direct.

(6) The form of log is shown in the Table attached to these conditions.

VII. Wireless Telegraphy Apparatus :

(1) The amateur station shall be equipped for reception as well as transmission except in the case of Short Wave Listeners Amateur Wireless Telegraph Station License when it shall be equipped for the former only.

(2) The Wireless telegraphy apparatus and other accessory equipment used or intended to be used by the licensee shall be so arranged as not to endanger the safety of licensee or other persons.

(3) The wireless telegraph apparatus shall be kept in a safe condition and housed in such manner as to preclude access to unauthorized persons.

(4) The transmitter shall be of a type that has a frequency stability comparable to that of a crystal control.

(5) Meters of standard accuracy shall be installed to measure the DC. power input to the anode circuit of the final radio frequency stage of the transmitter.

(6) The aerial used or intended to be used shall be so erected, fixed, or placed as not to cross above or fall on to any power, telegraph or telephone line.

VIII. Secrecy of Correspondence :

If any message which the licensee is not entitled to receive is, nevertheless received, the licensee shall not make known or allow to be made known its contents, its origin or destination, its existence or the fact of its receipt to any person (Other than duly authorized officer of the Central Government or a competent legal tribunal) and shall not reproduce in writing, copy or make any use of such message or allow the same to be reproduced in writing, copied or made use of.

IX. (1) General Radiotelegraph and Radiotelephone Procedure :

(1)(a) Before transmitting, the station shall take precautions to ensure that its emissions will not interfere with transmissions already in progress. If such interference is likely the transmission shall not commence till there is an appropriate break in the communications is progress.

(b)The call sign endorsed in the license shall be sent for identification at the beginning and at the end of each period of transmission. When the period of transmission exceeds 10 minutes the call sign shall be repeated. Licensee shall not make transmission without identification or with false identification.
(c) Prolonged calls and transmissions shall be avoided.

(d) When it is necessary to spell out call sign, certain expressions, difficult words, abbreviations, figures etc., the phonetic alphabet and figure code given in the Convention shall be used.

(2) Call and Reply Procedure

(a) The call shall consist of -

the call sign of the station called not more than three times;
the word DE (in case of radiotelegraphy) and the words "This is" (in case of radio telephony).
the call sign of the calling station, not more than three times.

(b) The reply to call shall consist of -

the call sign of the call sign station, not more than three times;
the word DE (in case of a radiotelegraphy)and the words "This us" (in case of radio telephony).
the call sign of the station called, not more than three times.

(c) The call may be sent three times at intervals of two minutes; thereafter it shall not be repeated until an interval of 10 minutes during which the operator shall listen in the frequency band is which the call has been made.

(d) In case of general call to all stations the signal `CQ' (in case of radiotelegraphy' and the words `Hello all stations' or the signal `CQ' (in case of radio-telephony) shall replace the call sign of the station called in the calling procedure.

(3) End of Transmission and Work :

(a) Transmission of a message shall be terminated by the signal AR (in case of radiotelegraphy) and the word `Over' (in case of radio-telephony).
(b) The end of work between two stations shall be indicated by each of them by means of signal VA (in case of radiotelegraph) and by the word `OUT' (or VA spoken as Victor Alfa) in case of radio-telephony.

(4) Tests :

(a) When it is necessary to make test signals either for the adjustment of a transmitter or a receiver or for any experiment, such signals shall not be continued for more than 30 seconds and shall be composed of series of VVV followed by the call sign of the station emitting the test signals. In case of radio-telephony series of VVV shall be replaces by the figures 1,2,3,4.....

spoken in the figure code.
(b) For tests exceeding 30 seconds an artificial aerial shall be used.
(c) Emission of carrier wave is forbidden unless such wave is subjected to intelligible modulation.

X. Inspection :

(1) Any officer authorized by the Central Government in that behalf in writing by them, may at all reasonable times enter the station solely or jointly with any other person or persons for the purpose of inspecting and may inspect, examine or test any apparatus conduct of such inspections and tests and making available the license, the station log or other records for examination by the inspecting officer.

(2) The licensee when called upon to do so by the Central Government shall arrange to forward the license, the log book, or any other record or data for examination by that Government.

XI. Powers to take possession of the Amateur Station and to order interception of messages :

(1) On the occurrence of any public emergency, or in the interest of the public safety, the Central Government or a State Government or any officer specially authorized in this behalf by the Central Government or a State Government may, if satisfied that it is necessary or expedient so to do, take temporary possession (for so long as the public emergency exists or the interest of the public safety requires the taking of such action) of the Amateur Station.

(2) On the occurrence of any public emergency, or in the interest of the public safety, the Central Government or a State Government may, if satisfied that it is necessary or expedient so to do in the interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign state or public order or for preventing incitement to the commission of an offense, for reasons to be recorded in writing, by order, direct that any message of class of messages relating to any particular subject, shall not be transmitted or received or shall be intercepted by the station or shall be disclosed to the Government making the order or an officer thereof mentioned in the order.

(3) The licensee shall not be entitled to any compensation in respect of the exercise of the powers conferred by sub condition (1) and (2) or this condition.

XII. The licensee shall indemnify the Central Government against all actions, claims and demands which may be brought or make by any person, body corporate or company in respect any injury arising from any act licensed or permitted by the license.

XIII. A copy of the Indian Wireless Telegraphs (Amateur Service) Rules., 1978 with further amendments shall be kept at the Amateur Station.

AUTHORISED FREQUENCY BANDS, POWER AND EMISSION
(Annx I to GOI, WPC ltr L-14011/255/2004-AMT dt 13/08/2010.)

Category of License	Frequency Bands	Emission	Max D. C.input power
RESTRICTED GRADE	1820-1860 * kHz (160m) 3500-3700 * kHz (80m) 3890-3900 kHz (75m) 7000-7200 kHz (40m) 14000-14350 kHz (20m) 18068-18168 kHz & (17m) 21000-21450 kHz (15m) 24890-24990 kHz &(12m)	A1A, A3E, H3E, J3E, R3E	50 Watts
	28000-29700 kHz (10m)	F1B, F2B, F3E, F3C	10 Watts
	50 – 54 MHz (6m)	-do – Plus A1A, A2A	10 Watts

	144-146 MHz (2m) 434-438 MHz @ (70cm)		
GENERAL GRADE	This is In addition to frequencies allotted to Restricted Grade 50 – 54 MHz (6m) 144-146 MHz (2m) 434-438 @ MHz (70cm) 5725-5840 MHz @ (0.05cm)	A1A, A2A, A3E, H3E, R3E, J3E, F1B, F2A, F3E,F3C, A3C, A3F F1B, F2B, F3E, F3C -do- -do-	400 Watts 25 Watts 25 Watts 25 Watts 25 Watts

*** On primary shared basis as per the relevant provisions of radio regulations.**
& Authorization is on non-interference and non-protection basis.
@ On secondary basis as per the relevant provisions of radio regulations.

Note:
(i) All the allocation subject to the relevant provisions of the Radio Regulations. Amateur satellite service is permitted for General grade in the appropriate sub-bands in accordance with Radio Regulations and those cases the maximum output R F power (eirp) is 30 dBw.
(ii) The above authorization is subject to site clearance as per the procedure prescribed by the Standing Advisory committee on Radio Frequency Allocation (SACFA) as applicable.
(iii) For A3F emission, the transmission shall be restricted to call-sign of the station, location and other particular of the station. They shall be limited to point to point test transmission employing a standard interface and scanning with a bandwidth not more
than 4 KHz.
(iv) DC input power is the total direct current power input to the final stage of the transmitter.

International Code for Radio Emission Modes

The International Telecommunication Union uses an internationally agreed system for classifying radio frequency signals. Each type of radio emission is classified according to its bandwidth, method of modulation, nature of the modulating signal, and type of information transmitted on the carrier signal. It is based on characteristics of the signal, not on the transmitter used.

An emission designation is of the form BBBB 123 45, where BBBB is the bandwidth of the signal, 1 is a letter indicating the type of modulation used, 2 is a digit representing the type of modulating signal, 3 is a letter corresponding to the type of information transmitted, 4 is a letter indicating the practical details of the transmitted information, and 5 is a letter that represents the method of multiplexing. The 4 and 5 fields are optional.
This designation system was agreed at the 1979 World Administrative Radio Conference (WARC 79), and gave rise to the Radio Regulations that came into force on 1 January 1982. A similar designation system had been in use under prior Radio Regulations.

Examples of Emission Mode Modulation Types

Morse **A1A, A1B, J2A, J2B, F1B, G1B**
Speech **A3E, J3E, F3E, G3E**
Data (packet) **A2D, A1D, J2D, FID, F2D, G1D, G2D**
RTTY **A2D, J2D, F2D, G2D**
Facsimile **A2C, J2C, F2C, G2F**
FSTV **C3F, A3F, J3F, F3F, G3F**
SSTV **A2F, J2F, J3F, F2F, F3F, G2F, G3F**

Description of Emission Mode

A 1 A : Double sideband Telegraphy by on-off keying, without modulation (CW)
A 3 E : Amplitude modulation Telephony, voice
F 3 E : Telephony, (voice) Frequency modulation
J 3 E : Telephony, (voice) Single sideband , suppressed carrier ,
R 3 E : Telephony, (voice) Single sideband, Reduced carrier ,
H 3 E : Telephony, (voice) Single sideband, full carrier.

F 1 B : Frequency modulated , RTTY, Fast Morse
A 2 A : Double sideband Telegraphy by on –off keying with modulation (MCW)
C 3 F : Vestigial Sideband Television

The bandwidth is expressed as three digits and a letter that occupies the position normally used for a decimal point. The letter indicates what unit of frequency is used to express the bandwidth. H indicates hertz, K indicates kilohertz, M indicates megahertz, and G indicates gigahertz. For instance, "500H" means 500 Hz, and "2M50" means 2.5 MHz.

Chart for Emission Mode Codes

Phonetic Alphabet and Figure Code

When it is necessary to spell out call signs, service abbreviations and words, the following letter spelling table shall be used:

Letter to be transmitted	Code word to be used	Spoken as *
A	Alfa	AL FAH
B	Bravo	BRAH VOH
C	Charlie	CHAR LEE or SHAR LEE
D	Delta	DELL TAH
E	Echo	ECK OH
F	Foxtrot	FOKS TROT
G	Golf	GOLF
H	Hotel	HOH TELL
I	India	IN DEE AH
J	Juliett	JEW LEE ETT
K	Kilo	KEY LOH
L	Lima	LEE MAH
M	Mike	MIKE
N	November	NO VEM BER
O	Oscar	OSS CAH
P	Papa	PAH PAH
Q	Quebec	KEH BECK
R	Romeo	ROW ME OH
S	Sierra	SEE AIR RAH
T	Tango	TANG GO
U	Uniform	YOU NEE FORM or OO NEE FORM
V	Victor	VIK TAH
W	Whiskey	WISS KEY
X	X-ray	ECKS RAY
Y	Yankee	YANG KEY
Z	Zulu	ZOO LOO

* The syllables to be emphasized are underlined.

When it is necessary to spell out figures or marks, the following table shall be used:

Letter to be transmitted	Code word to be used	Spoken as **
0	Nadazero	NAH-DAH-ZAY-ROH
1	Unaone	OO-NAH-WUN
2	Bissotwo	BEES-SOH-TOO
3	Terrathree	TAY-RAH-TREE
4	Kartefour	KAR-TAY-FOWER
5	Pantafive	PAN-TAH-FIVE
6	Soxisix	SOK-SEE-SIX
7	Setteseven	SAY-TAY-SEVEN
8	Oktoeight	OK-TOH-AIT
9	Novenine	NO-VAY-NINER
Decimal point	Decimal	DAY-SEE-MAL
Full stop	Stop	STOP

***** Each syllable should be equally emphasized.***

Frequency and Wavelength Bands

The radio spectrum shall be subdivided into nine frequency bands, which shall be designated by progressive whole numbers in accordance with the following table. As the unit of frequency is the hertz (Hz), frequencies shall be expressed:

- in kilohertz (kHz), up to and including 3 000 kHz;
- in megahertz (MHz), above 3 MHz, up to and including 3 000 MHz;
- in gigahertz (GHz), above 3 GHz, up to and including 3 000 GHz.

However, where adherence to these provisions would introduce serious difficulties, for example in connection with the notification and registration of frequencies, the lists of frequencies and related matters, reasonable departures may be made.

Band Number	Symbols	Frequency Range (lower limit exclusive, upper limit inclusive)	Corresponding Metric Subdivision
14	VLF	**3 to 30 kHz**	Myriametric waves
15	LF	**30 to 300 kHz**	Kilometric waves
16	MF	**300 to 3 000 kHz**	Hectometric waves
17	HF	**3 to 30 MHz**	Decametric waves
18	VHF	**30 to 300 MHz**	Metric waves
19	UHF	**300 to 3 000 MHz**	Decimetric waves
10	SHF	**3 to 30 GHz**	Centimetric waves
11	EHF	**30 to 300 GHz**	Millimetric waves
12		**300 to 3 000 GHz**	Decimillimetric waves

Note 1: "Band N" (N = band number) extends from 0.3 × 10N Hz to 3 × 10N Hz.

Note 2: Prefix: k = kilo (103), M = mega (106), G = giga (109).

INTERNATIONAL TELECOMMUNICATION UNION (I T U)

ITU plays a vital role in the management of the radio frequency spectrum and satellite orbits, finite natural resources which are increasingly in demand from many services such as fixed, mobile, broadcasting, amateur, space research, meteorology, global positioning systems,environmental monitoring and last but not least, those communication services that ensure safety of life at sea and in the skies. This is headquartered at Geneva, Switzerland.

At present there are 193 members (Countries).ITU is divided into three regions: India comes under region 3.

ITU is responsible for distribution of the radio-frequency spectrum to radio services in different parts of the world and the regulatory provisions to be applied in order to access that spectrum. In India the WPC Wing of the Ministry of Communications and IT, Department of Telecommunications is responsible for allocating and managing the Frequency spectrum in the

country.

Callsigns :

The Callsign Block allocated to India : ATA-AWZ, VTA-VWZ, 8TA-8YZ

Callsign formation for Indian Amateurs :

GENERAL GRADE VU2 prefix with 2 OR 3 letter suffix. Eg.. VU2EBC VU2FA
VU2 prefix with 3 letter suffix. Not ending X, Y, Z
Eg… VU2SYT VU2KGN VU2RDL

(Earlier before Sep 2010 – VU2FA was Advance grade. VU2SYT was Grade I. VU3PKQ was Grade II or Restricted Grade)

RESTRICTED Grade VU3 prefix followed by 3 letter suffix. Eg…VU3PKQ VU3NAB

Q codes , distress and other signals which may cause confusions are not issued as suffix.

Prefix of some other Countries (DX Stations) :

Japan : JA-JS Germany: DA-DR USA : K, W, N

England : G, M Srilanka : 4S Russia : RA-RZ, UA-UI

General Radiotelegraph and Radiotelephone Procedure :

(a) Before transmitting, the station shall take precautions to ensure that its emissions will not interfere with transmissions already in progress. If such interference is likely the transmission shall not commence till there is an appropriate break in the communications is progress.

(b) The callsign endorsed in the license shall be sent for identification at the beginning and at the end of each period of transmission. When the period of transmission exceeds 10 minutes the call sign shall be repeated. Licensee shall not make transmission without identification or with false identification.

(c) Prolonged calls and transmissions shall be avoided.

(d) When it is necessary to spell out call sign, certain expressions, difficult words, abbreviations, figures etc., the phonetic alphabet and figure code given in the Convention shall be used.

Call and Reply Procedure:

(a) The call shall consist of the call sign of the station called not more than three times;
the word DE (in case of radiotelegraphy) and the words "This is" (in case of radio telephony). the call sign of the calling station, not more than three times.

Eg. **ON SSB : VU3PKQ THIS IS VU2SYT OVER**
ON CW : VU2UR VU2UR VU2UR DE VU2NXA VU2NXA VU2NXA AR K

(b) The reply to call shall consist of - the call sign of the calling station, not more than three times; the word DE (in case of a radiotelegraphy) and the words "This is" (in case of radio telephony). the call sign of the station called, not more than three times.

Eg. ON SSB : VU2SYT THIS IS VU3PKQ OVER
ON CW : VU2NXM VU2NXM VU2NXM DE VU2UR VU2UR VU2UR AR K

(c) The call may be sent three times at intervals of two minutes; thereafter it shall not be repeated until an interval of 10 minutes during which the operator shall listen in the frequency band in which the call has been made.

(d) In case of general call to all stations the signal `CQ' (in case of radiotelegraphy/CW) and the words `Hello all stations' or the signal `CQ' (in case of radio-telephony) shall replace the call sign of the station called in the calling procedure.

Eg.. ON SSB : CQ CQ CQ THIS IS VU2SG VU2SG VU2SG OVER
OR Hello all stations (three times) this is VU2SG(three times) OVER
ON CW : CQ CQ CQ de VU2PAG VU2PAG VU2PAG AR K

(3) End of Transmission and Work :

(a) Transmission of a message shall be terminated by the signal AR (in case of radiotelegraphy)

and the word `Over' (in case of radiotelephony).
(b) The end of work between two stations shall be indicated by each of them by means of signal VA (in case of radiotelegraph) and by the word `OUT' (or VA spoken as Victor Alfa) in case of radio-telephony.

Breaking in Procedure:
When two or more stations are in communication and the third station wants to join them, The third station should send the word “BREAK followed by the callsign.

Eg.. VU2SMN and VU2NKS are in communication, third station VU2AVG wants to join now :
Then he transmits : - BREAK VU2AVG (on voice) or
BK VU2AVG (on CW)
If either stations do not answer your break in then wait and call them after their communication is over.

Emergency Communications

Emergency Conditions
Emergency conditions are classified in accordance with the degree of danger or hazard as follows:

Distress: A condition of being threatened by grave and/or imminent danger and requiring immediate assistance.

Urgency: A condition concerning the safety of an aircraft or other vehicle, or of someone on board or within sight, but which does not require immediate assistance.

Safety: An indication that the station calling is about to transmit a message concerning the safety of navigation or important meteorological warnings.

Distress, urgency and safety procedures are outlined in **ITU** regulations and are designed primarily for the aeronautical and maritime services. Use of these types of communications in the land mobile service is very rare.

Since detailed procedures for distress, urgency and safety communications have not been expressly developed for use in the land-mobile service, a brief outline of procedures for providing safety-related communications is given in the following sections.

Distress Communications
Distress communications should be conducted in accordance with the procedures outlined in this section. These procedures shall not, however, prevent a station in distress from making use of any means at its disposal to attract attention, to make known its position, and to obtain assistance.

Frequencies to Be Used
The first transmission of the distress call and message by a station should be made on the frequency in use at the time. If the station is unable to establish communications on the frequency in use, the distress call and message should be repeated on any other frequency available in an effort to establish communications with any other station.

Distress Signal
In radio-telephony, the spoken word for distress is **"MAYDAY"**, and it should be used at the commencement of the first distress communication.

The distress signal indicates that a person or station sending the signal is:threatened by grave and imminent danger and requires immediate assistance, or aware that an aircraft, ship, other station or person is threatened by grave and imminent danger and requires immediate assistance.

Priority of Distress

The distress call has absolute priority over all other transmissions. All stations which hear it shall immediately cease any transmission capable of interfering with distress traffic and continue to listen on the frequency used for the distress call.

Control of Distress Traffic

The control of distress traffic is the responsibility of the station in distress or of the station which relays the distress message. These stations may, however, delegate the control of distress traffic to another station.

Distress Calls

The distress call identifies the station in distress, and such calls shall only be sent on the authority of the person in command of the station. The distress call should comprise:

the distress signal "MAYDAY" spoken three times;
the words "THIS IS";
the call sign of the station in distress spoken three times.
Example:
MAYDAY, MAYDAY, MAYDAY
THIS IS
PIPER CHARLIE FOXTROT X-RAY QUEBEC QUEBEC
PIPER CHARLIE FOXTROT X-RAY QUEBEC QUEBEC
PIPER CHARLIE FOXTROT X-RAY QUEBEC QUEBEC

The distress call shall not be addressed to a particular station and acknowledgement of receipt shall not be given before the distress message is sent.

Distress Message

Sending a Distress message from a ship

You may only have seconds to send a distress call. Here's what you do. Transmit, in this order:

1. Distress signal "MAYDAY", spoken three times.
2. The words "THIS IS", spoken once.
3. Name of vessel in distress (spoken three times) and call sign or boat registration number, spoken once.
4. Repeat "MAYDAY" and name of vessel, spoken once.
5. Give position of vessel by latitude or longitude or by bearing (true or magnetic, state which) and distance to a well-know landmark such as a navigational aid or small island, or in any terms which will assist a responding station in locating the vessel in distress. Include any information on vessel movement such as course, speed and destination.
6. Nature of distress (sinking, fire etc.).
7. Kind of assistance desired.
8. Number of persons onboard.

Any other information which might facilitate rescue, such as length or tonnage of vessel, number of persons needing medical attention, color hull, cabin, masks, etc.
The word "OVER"
Stay by the radio if possible. Even after the message has been received, the Coast Guard can find you more quickly if you can transmit a signal on which a rescue boat or aircraft can home.

For example:
MAYDAY-MAYDAY-MAYDAY.
THIS IS BLUE DUCK-BLUE DUCK-BLUE DUCK WA1234.
CAPE HENRY LIGHT BEARS 185 DEGREES MAGNETIC-DISTANCE 2 MILES.
STRUCK SUBMERGED OBJECT.
NEED PUMPS-MEDICAL ASSISTANCE AND TOW.
THREE ADULTS, TWO CHILDREN ONBOARD.
ONE PERSON COMPOUND FRACTURE OF ARM.
ESTIMATE CAN REMAIN AFLOAT TWO HOURS.
BLUE DUCK IS THIRTY TWO FOOT CABIN CRUISER-WHITE HULL-BLUE DECK HOUSE.
OVER.
Repeat at intervals until an answer is received.

Urgency Communications

Urgency Signal

The urgency signal indicates that the station calling has a very urgent message to transmit concerning the safety of a station or a person, but does not require immediate assistance and shall only be sent on the authority of the person in charge of the station.

The urgency signal is "PAN PAN" spoken three times. It should be used at the beginning of the first communication.

The urgency signal and the urgency message may be addressed to all stations or to a specific station.

Priority

The urgency signal has priority over all other communications except distress.

Stations that hear the urgency signal shall continue to listen for at least three minutes on the frequency which the signal was heard. After that, if no urgency message has been heard, stations may resume normal service. All stations that hear the urgency signal must take care not to interfere with the urgency message which follows. Stations that are in communication on frequencies other than those used for the transmission of the urgency message, may continue normal work without interruption, provided that the urgency message is not addressed to all stations.

Frequencies to Be Used

The first transmission of the urgency signal and message by a station should be made on the frequency in use at the time. If the station is unable to establish communication on the frequency in use, the urgency signal and message should be repeated on any other frequency available in an effort to establish communication with any other station.

Urgency Message

The urgency signal shall be followed by a message giving further information of the incident that necessitated the use of the urgency signal.

The urgency message should contain as many as required of the following elements spoken distinctly and, if possible, in the following order:

the urgency signal "PAN PAN" (three times);
the name of the station addressed or the words "ALL STATIONS" (three times);
the words "THIS IS";
the identification of the station sending the urgency message;
the nature of the urgency condition;
the intentions of the person in command;
present position, flight level or altitude and heading;

any other useful information.
Example:

PAN PAN, PAN PAN, PAN PAN
ALL STATIONS, ALL STATIONS, ALL STATIONS
THIS IS
CESSNA CHARLIE FOXTROT NOVEMBER JULIETT INDIA
LOST, REQUEST RADAR CHECK
POSITION: UNKNOWN
AIRSPEED: 112 KNOTS
ALTITUDE: 1050 FEET
CESSNA CHARLIE FOXTROT NOVEMBER JULIETT INDIA
OVER

Example of reply:

PAN PAN
CESSNA CHARLIE FOXTROT NOVEMBER JULIETT INDIA
THIS IS WINNIPEG TOWER
YOUR POSITION IS 20 MILES SOUTH OF WINNIPEG
WINNIPEG TOWER
STANDING BY

Cancellation of Urgency Message

When the urgency message which calls for action by the stations receiving the message has been transmitted, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary. The cancellation message shall be addressed to "ALL STATIONS".

Example:

PAN PAN
HELLO ALL STATIONS, HELLO ALL STATIONS, HELLO ALL STATIONS
THIS IS
CESSNA CHARLIE FOXTROT NOVEMBER JULIETT INDIA
CESSNA CHARLIE FOXTROT NOVEMBER JULIETT INDIA HAS BEEN
POSITIONED AT 20 MILES SOUTH OF WINNIPEG AIRPORT
PROCEEDING NORMALLY
CESSNA CHARLIE FOXTROT NOVEMBER JULIETT INDIA
OUT

Safety Communications

Safety Signal
The safety signal is used mainly in the maritime mobile service. It indicates that the station calling is about to transmit a message concerning the safety of navigation or important meteorological warnings.

The safety signal is the word **"SECURITE"** spoken three times and pronounced as in French. It should be used at the beginning of the first communication.

The safety signal and the safety message may be addressed to "ALL STATIONS" or to a specific station.

Priority
The safety signal has priority over all other communications except distress and urgency.

Stations that hear the safety signal shall continue to listen on the frequency on which the message was transmitted until they are satisfied that the message is of no interest to them.

All stations that hear the safety signal must take care not to interfere with the safety message that follows it.

Safety Message
The safety message should contain as many of the following elements and, if possible, in the following order:

the safety signal "SECURITE" (three times);
the name of the station addressed or "ALL STATIONS" (repeated three times);
the words "THIS IS";
the name or call sign of the station sending the message;
the nature of the condition;
the name or call sign of the station sending the message.
Example:

SECURITE, SECURITE, SECURITE
ALL STATIONS, ALL STATIONS, ALL STATIONS
THIS IS
VANCOUVER RADIO
NOTICE TO ALL VESSELS IN THE MERRY ISLAND AREA
LOG BOOM ADRIFT AND BREAKING UP SIX MILES SOUTH
OF MERRY ISLAND
VANCOUVER RADIO
OUT

Standard frequency and time signal service

To facilitate more efficient use of the radio frequency spectrum and to assist other technical and scientific activities, Many countries provide a standard frequency and time signal service. in accordance with the provisions of Article 26 of ITU regulations

The Standard Time and Frequency Signal (STFS) is a time signal service available in the United States which provides standard time and frequency signals, broadcast on very precise carrier frequencies by the U.S. Naval Observatory and the National Institute of Standards and Technology (NIST), formerly the National Bureau of Standards (NBS).

A similar service is operated in the United Kingdom by the National Physical Laboratory,

The National Physical Laboratory, India is the premier research laboratory in India in the field of physical sciences. NPLI continues to disseminate standard time and frequency signals (STFS) via geostationary satellite INSAT with an accuracy of 10 ms.

World Time Signal Stations

Some station has audio "click" each second and time announcements just before the minute mark.

Country	Call Letters	Frequencies in MHz	Service / Agency
ARGENTINA	LOL	10	Observatorio Naval ,Buenos Aires
CANADA	CHU	3.33, 7.335 &14.67	Time Services of Institute for National Measurement Standards
CHINA	BPM	2.5, 5, 10 & 15	National Time Service Center ; Chinese Academy Of Science
INDIA	ATA	10	---
RUSSIA	RWM	4.996, 9.996 & 14.996	Russian State Time and

			Frequency Service
SOUTH KOREA	HLA	5.0	Time and Frequency Laboratory ,Korea Research Institute of Standards & Science
TAIWAN	BSF	5 & 15	Nation Standard Time & Frequency Laboratory
USA	WWV WWVH WWVB	2.5, 5, 10 & 15 , 20 MHz WWV only 60 KHz*	Time and Frequency Division ,NIST

HAM RADIO ABBREVIATIONS

Here is a non exhaustive list of ham radio abbreviations, particularly used in CW QSOs.

AA	All after	**GB**	Good bye
AGN	Again	**GD**	Good or Good day
ANS	Answer	**GE**	Good evening
ANT	Antenna	**GM**	Good morning
AR	End of message	**GN**	Good night
AS	Waiting period	**GND**	Ground
B4	Before	**GP**	Ground-plane antenna
BC	Broadcast	**GUD**	Good
BD	Bad	**HI**	Laughter on CW
BK	Back or break	**HR**	Here or ham radio
BN	Been, being	**HV**	Have
BTW	By the way	**HW?**	How do you copy me? What about you?
BURO	QSL bureau	**K**	Please transmit
C	Correct, yes	**KN**	Only the station I am working should transmit
CBA	Callbook address	**LID**	Poor operator
CFM	Confirm	**LP**	Log-periodic antenna or long path
CL	Closing station down	**LSB**	Lower sideband
CLG	Calling	**LW**	Long-wire antenna
CLR	Clear	**MGR**	QSL manager
CONDX	Conditions	**MNI**	Many
CPI	Copy	**MSG**	Message
CPY	Copy	**NIL**	Nothing heard or no copy
CQ	General call for a QSO (contact)	**NR**	Near
CW	Continuous waves (Morse code)	**NW**	Now or North-West
DE	From	**OM**	Old man (amateur radio operator)
DR	Dear	**OP**	Operator name
DWN	Down	**OPR**	Operator, operate
DX	Long distance contact, rare station	**PSE**	Please
ES	And	**PO**	Power output
FB	Fine business, very good	**PWR**	Power

FER	For	**R**	Message received or correct
GUD	Good	**RCV**	Receive
GA	Good afternoon or go ahead	**RCVD**	Received
RIG	Equipment	**U**	You
RPRT	Report	**UFB**	Ultra fine business (excellent)
RPT	Repeat	**UR**	Your
RX	Receiver	**USB**	Upper sideband
SIG	Signal	**VERT**	Vertical antenna
SK	This is my last transmission (stop keying)	**VA**	End of work
SN	Soon	**VY**	Very
SNW	Snow	**W**	Watts
SP	Short path	**WA**	Word after
SRI	Sorry	**WB**	Word before
STN	Station	**WKD**	Worked (connected)
SWL	Short waves listener	**WPM**	Words Per Minute
TEMP	Temperature	**WRK**	Work
TEST	Contest	**WX**	Weather
TFC	Traffic	**XCVR**	Transceiver
TIL	Until	**XMTR**	Transmitter
TKS	Thanks	**XTAL**	Crystal
TCVR	Transceiver	**XYL**	Wife
TU	Thank you	**YL**	Young Lady
TX	Transmitter	**73**	Best regards
TNX	Thanks	**88**	Love and kisses

Morse code

Morse code is a method of transmitting text information as a series of on-off tones, lights, or clicks that can be directly understood by a skilled listener or observer without special equipment. The International Morse Code encodes the basic Latin alphabet, some extra Latin letters, the Arabic numerals and a small set of punctuation and procedural signals as standardized sequences of short and long signals called "dots" and "dashes", or "dits" and "dahs".

Each character (letter or numeral) is represented by a unique sequence of dots and dashes. The duration of a dash is three times the duration of a dot. Each dot or dash is followed by a short silence, equal to the dot duration. The letters of a word are separated by a space equal to three dots (one dash), and the words are separated by a space equal to seven dots. The dot duration is the basic unit of time measurement in code transmission. For efficiency, the length of each character in Morse is approximately inversely proportional to its frequency of occurrence in

English. Thus, the most common letter in English, the letter "E," has the shortest code, a single dot.

Morse code is most popular among amateur radio operators, although it is no longer required for licensing in most countries. Aeronautical navigational aids, such as VORs and NDBs, constantly identify in Morse code. Compared to voice, Morse code is less sensitive to poor signal conditions, yet still comprehensible to humans without a decoding device. Morse is therefore a useful alternative to synthesized speech for sending automated data to skilled listeners on voice channels. Many amateur radio repeaters, for example, identify with Morse, even though they are used for voice communications.

Character	Code	pronunciation	Character	Code	pronunciation
A	·–	(dit daah)	**J**	·–––	(dit daah daah daah)
B	–···	(daah dit dit dit)	**K**	–·–	(daah dit daah)
C	–·–·	(daah dit daah dit)	**L**	·–··	(dit daah dit dit)
D	–··	(daah dit dit)	**M**	––	(daah daah)
E	·	(dit)	**N**	–·	(daah dit)
F	··–·	(dit dit daah dit)	**O**	–––	(daah daah daah)
G	––·	(daah daah dit)	**P**	·––·	(dit daah daah dit)
H	····	(dit dit dit dit)	**Q**	––·–	(daah daah dit daah)
I	··	(dit dit)	**R**	·–·	(dit daah dit)
Character	Code	pronunciation	Character	Code	pronunciation
S	···	(dit dit dit)	1	·————	(dit daah daah daah daah)
T	–	(daah)	2	··–––	(dit dit daah daah daah)
U	··–	(dit dit daah)	3	···––	(dit dit dit daah daah)
V	···–	(dit dit dit daah)	4	····–	(dit dit dit dit daah)
W	·––	(dit daah daah)	5	·····	(dit dit dit dit dit)
X	–··–	(daah dit dit daah)	6	–····	(daah dit dit dit dit)
Y	–·––	(daah dit daah daah)	7	––···	(daah daah dit dit dit)
Z	––··	(daah daah dit dit)	8	–––··	(daah daah daah dit dit)
0	–––––	(daah daah daah daah daah)	9	––––·	(daah daah daah daah dit)

Character	Code	Character	Code
Period [.]	·–·–·–	Colon [:]	–––···
Comma [,]	––··––	Semicolon [;]	–·–·–·
Question mark [?]	··––··	Double dash [=]	–···–
Apostrophe [']	·––––·	Plus [+]	·–·–·
Exclamation mark [!]	–·–·––	Hyphen, Minus [-]	–····–
Slash [/], Fraction bar	–··–·	Underscore [_]	··––·–
Parenthesis open [(]	–·––·	Quotation mark ["]	·–··–·
Parenthesis close [)]	–·––·–	Dollar sign [$]	···–··–
Ampersand [&], Wait	·–···	At sign [@]	·––·–· (=A+C)

Q CODES

The Q code is a standardized collection of three-letter message encodings, also known as a brevity code, all of which start with the letter "Q", initially developed for commercial radiotelegraph communication, and later adopted by other radio services, especially amateur radio. Although Q codes were created when radio used Morse code exclusively, they continued to be employed after the introduction of voice transmissions. Q codes are commonly used in voice communications as shorthand nouns, verbs, and adjectives making up phrases. For example, an amateur radio operator will complain about QRM (man-made interference), or tell another operator that there is "QSB on the signal" (fading); "to QSY" is to change your operating frequency. (See also Informal usage, below.)

Code	Question	Answer or Statement
QRA	What is the name (or call sign) of your station?	The name (or call sign) of my station is ...
QRG	Will you tell me my exact frequency (or that of ...)?	Your exact frequency (or that of ...) is ... kHz (or MHz).
QRH	Does my frequency vary?	Your frequency varies.
QRI	How is the tone of my transmission?	The tone of your transmission is (1. Good; 2. Variable; 3. Bad)
QRJ	How many voice contacts do you want to make?	I want to make ... voice contacts.
QRK	What is the readability of my signals (or those of ...)?	The readability of your signals (or those of ...) is ... (1 to 5).
QRL	Are you busy?	I am busy. (or I am busy with ...) Please do not interfere.
QRM	Do you have interference?	I have interference.
QRN	Are you troubled by static?	I am troubled by static.
QRO	Shall I increase power?	Increase power.
QRP	Shall I decrease power?	Decrease power.
QRQ	Shall I send faster?	Send faster (... wpm)
QRS	Shall I send more slowly?	Send more slowly (... wpm)
QRT	Shall I cease or suspend operation?/ shutoff the radio	I am suspending operation. /shutting off the radio
QRU	Have you anything for me?	I have nothing for you.
QRV	Are you ready?	I am ready.
QRW	Shall I inform ... that you are calling him on ... kHz (or MHz)?	Please inform ... that I am calling him on ... kHz (or MHz).

QRX	Shall I standby / When will you call me again?	Please standby / I will call you again at ... (hours) on ... kHz (or MHz)
QRZ	Who is calling me?	You are being called by ... on ... kHz (or MHz)
QSA	What is the strength of my signals (or those of ...)?	The strength of your signals (or those of ...) is ... (1 to 5).
QSB	Are my signals fading?	Your signals are fading.
QSD	Is my keying defective?	Your keying is defective.
QSG	Shall I send ... telegrams (messages) at a time?	Send ... telegrams (messages) at a time.
QSK	Can you hear me between your signals?	I can hear you between my signals.
QSL	Can you acknowledge receipt?	I am acknowledging receipt.
QSM	Shall I repeat the last telegram (message) which I sent you, or some previous telegram (message)?	Repeat the last telegram (message) which you sent me (or telegram(s) (message(s)) numbers(s) ...).
QSN	Did you hear me (or ... (call sign)) on .. kHz (or MHz)?	I did hear you (or ... (call sign)) on ... kHz (or MHz).
QSO	Can you communicate with ... direct or by relay?	I can communicate with ... direct (or by relay through ...).
QSP	Will you relay a message to ...?	I will relay a message to ... .
QSR	Do you want me to repeat my call?	Please repeat your call; I did not hear you.
QSS	What working frequency will you use?	I will use the working frequency ... kHz (or MHz).
QST	-	Here is a broadcast message to all amateurs.
QSU	Shall I send or reply on this frequency (or on ... kHz (or MHz))?	Send or reply on this frequency (or on ... kHz (or MHz)).
QSW	Will you send on this frequency (or on ... kHz (or MHz))?	I am going to send on this frequency (or on ... kHz (or MHz)).
QSX	Will you listen to ... (call sign(s) on ... kHz (or MHz))?	I am listening to ... (call sign(s) on ... kHz (or MHz))
QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency (or on ... kHz (or MHz)).
QSZ	Shall I send each word or group more than once?	Send each word or group twice (or ... times).
QTA	Shall I cancel telegram (message) No. ... as if it had not been sent?	Cancel telegram (message) No. ... as if it had not been sent.
QTC	How many telegrams (messages) have you to send?	I have ... telegrams (messages) for you (or for ...).
QTH	What is your position in latitude and longitude (or according to any other indication)?	My position is ... latitude...longitude
QTR	What is the correct time?	The correct time is ... hours
QTU	At what times are you operating?	I am operating from ... to ... hours.
QTX	Will you keep your station open for further communication with me until further notice (or until ... hours)?	I will keep my station open for further communication with you until further notice (or until ... hours).
QUA	Have you news of ... (call sign)?	Here is news of ... (call sign).

QUC	What is the number (or other indication) of the last message you received from me (or from ... (call sign))?	The number (or other indication) of the last message I received from you (or from ... (call sign)) is ...
QUD	Have you received the urgency signal sent by ... (call sign of mobile station)?	I have received the urgency signal sent by ... (call sign of mobile station) at ... hours.
QUE	Can you speak in ... (language), - with interpreter if necessary; if so, on what frequencies?	I can speak in ... (language) on ... kHz (or MHz).
QUF	Have you received the distress signal sent by ... (call sign of mobile station)?	I have received the distress signal sent by ... (call sign of mobile station) at ... hours.

RST System :

The RST System of Signal Reporting was established roughly in 1934 as a quick method of reporting Readability, Signal Strength and the Tone of CW. It can be used for troubleshooting problems with your station and has been used by Hams worldwide for many years and also is used by the military with slight modifications in their reporting of transmissions.

The RST system is used for giving reports of the signals received .
“R” stands for Readability, and has range from 1 to 5.
“S” stands for Signal Strength, and has range from 1 to 9.
“T” stands for Tone and has range from 1 to 9.

For voice contacts only the "R" and "S" are used. The "S" component is usually not the same as your S-Meter reading as most S-Meters aren't calibrated to track the RST System.

For example a "569" report for a voice contact is NOT valid. Remember that the 3rd number from the left is for "Tone" in CW. Note that many DX operations and contest stations merely report "599" as a convenience to avoid having to log each of the real reports. This is a questionable practice but is used most of the time in DX'ing/Contesting. Would you give a 599 for a station you could barely hear? Would you appreciate it if this was your report from someone that could barely hear you? Be honest with your reports!

Following table shows the meanings of the figures used in the RST system

Readability		Signal Strength	
"1"	Unreadable	**"1"**	1. Faint signal barely readable
"2"	Barely readable, only some words are distinguishable	**"2"**	2. Very weak signals
"3"	Readable with considerable difficulty	**"3"**	3. Weak signals
"4"	Fair Signals	**"4"**	4. Readable with practically no difficulty
"5"	Perfect readable	**"5"**	5. Fairly Good signals
		"6"	6. Good signals.
		"7"	7. Moderately Strong signals.
		"8"	8. Strong signals
		"9"	9. Extremely strong signals.

Tone (tone report is given on CW)

"1"	Very rough and broad AC
"2"	Very hard and broad AC
"3"	Rough AC Tone, rectified but not filtered
"4"	Rough tone, some traces of filtering
"5"	Filtered rectified AC but strongly ripple modulated
"6"	Filtered tone, definite trace of ripple modulation
"7"	Near pure tone, trace of ripple modulation
"8"	Near perfect tone, slight trace of modulation
"9"	Perfect tone, no traces of ripple or modulation of any kind

Example #1 A CW REPORT: If you got a report of "599" on CW, it means the following:
The five means your signal is very easy to understand with absolutely no difficulty. The first nine means your signal registers a very strong reading on your S meter, usually 3/4 scale or more. The second nine means your CW tone has a nice pure clear tone or sound.
Example #2 A VOICE REPORT: If you get a 5 5 (sometimes said 5 by 5)....Your signal is perfectly readable with a fairly good signal strength.

In some cases people may tell you: your signal is five nine plus twenty dB... In this case the twenty db part indicates that your signal is so strong that it goes off the standard 1 through 9 signal strength S meter dial by twenty decibels as indicated on the meter readout. This would mean that you are putting out a REALLY strong signal!

Practice Questions

1. The signal "QRM" means:
a. your signals are fading
b. I am troubled by static
c. your transmission is being interfered with
d. is my transmission being interfered with?

2. The signal "QRN" means:
a. I am busy
b. I am troubled by static
c. are you troubled by static?
d. I am being interfered with

3. The "Q signal" requesting the other station to send slower
a. QRL
b. QRN
c. QRM
d. QRS

4. The question "Who is calling me?" is asked by:
a. QRT?
b. QRM?
c. QRP?
d. QRZ?

5. The "Q" signal "what is your location?" is:
a. QTH?
b. QTC?
c. QRL?
d. QRZ?

6. The correct order for callsigns in a callsign exchange at the start and end of a transmission is:
a. the other callsign followed by your own callsign
b. your callsign followed by the other callsign
c. your own callsign, repeated twice
d. the other callsign, repeated twice

7. The following phonetic code is correct for the callsign "ZL1AN":
a. zanzibar london one america norway
b. zulu lima one alpha november
c. zulu lima one able nancy
d. zulu lima one able niner

8. The accepted way to call "CQ" with a SSB transceiver is:
a. "CQ CQ CQ this is VUXXX VUXXX VUXXX"
b. "This is VUXXX calling CQ CQ CQ"
c. "CQ to anyone, CQ to anyone, I am VUXXX"
d. "CQ CQ CQ CQ CQ this is India"

9. A signal report of "5 and 1" indicates:
a. very low intelligibility but good signal strength
b. perfect intelligibility but very low signal strength
c. perfect intelligibility, high signal strength
d. medium intelligibility and signal strength

10. The correct phonetic code for the callsign VK5ZX is:
a. victor kilowatt five zulu xray
b. victor kilo five zulu xray
c. victor kilo five zanzibar xray
d. victoria kilo five zulu xray

11. A rare DX station calling CQ on CW and repeating "up 2" at the end of the call means the station:
a. will be listening for replies 2 kHz higher in frequency
b. will reply only to stations sending at greater than 20 wpm
c. is about to shift his calling frequency 2 kHz higher
d. will wait more than 2 seconds before replying to his call