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# Examinations

To obtain an FCC commercial operator license, an applicant must submit an original Proof of Passing Certificate issued by a Commercial Operator License Examination Manager (COLEM), or have the application filed electronically by the COLEM, demonstrating that the applicant has passed the required written and/or telegraphy elements, as illustrated in the table below.

Type of License	Elements
Radiotelegraph Operator License	Written Element(s) 1 & 6 Telegraphy Element(s) 1 & 2
General Radiotelephone Operator License	Written Element(s) 1 & 3
Marine Radio Operator Permit	Written Element(s) 1
GMDSS Radio Operator's License	Written Element(s) 1 & 7
Restricted GMDSS Radio Operator's License	Written Element(s) 1 & 7R
GMDSS Radio Maintainer's License	Written Element(s) 1, 3 & 9
Ship Radar Endorsement	Written Element(s) 8

## Written Examination Elements

[Note: From time to time, the Commission may change the number of questions to be included in the examination for a particular element and/or the number of answers needed to pass the examination. The Commission will issue a public notice or take other action to inform the public of any such change.]

**Element 1:** Basic radio law and operating practice with which every maritime radio operator should be familiar. To pass, an examinee must correctly answer at least 18 out of 24 questions.

**Element 3:** General Radiotelephone. Electronic fundamentals and techniques required to adjust, repair, and maintain radio transmitters and receivers. To pass, an examinee must correctly answer 75 out of 100 questions, from the following categories:

- operating procedures
- radio wave propagation
- radio practice

- electrical principles
- circuit components
- practical circuits
- signals and emissions
- antennas and feed lines

**Element 6:** Advanced Radiotelegraph. Technical, legal, and other matters applicable to the operation of all classes of radiotelegraph stations. To pass, an examinee must correctly answer at least 75 out of 100 questions.

**Element 7:** GMDSS Radio Operating Practices. GMDSS radio operating procedures and practices sufficient to show detailed practical knowledge of the operation of all GMDSS sub-systems and equipment. The exam consists of questions from the following categories: general information, narrow-band direct-printing, INMARSAT, NAVTEX, digital selective calling, and survival craft. To pass, an examinee must correctly answer at least 75 out of 100 questions.

**Element 7R:** Restricted GMDSS Radio Operating Practices. Fifty questions concerning those GMDSS radio operating procedures and practices that are applicable to ship stations on vessels that sail exclusively in sea area A1, as defined in sections 80.1069 and 80.1081 of the Commission's Rules. To pass, an examinee must correctly answer at least 38 out of 50 questions.

**Element 8:** Ship Radar Techniques. Specialized theory and practice applicable to the proper installation, servicing, and maintenance of ship radar equipment in general use for marine navigation purposes. To pass, an examinee must correctly answer at least 38 out of 50 questions.

**Element 9:** GMDSS Radio Maintenance Practices and Procedures. Requirements set forth in IMO Assembly on Training for Radio Personnel (GMDSS), Annex 5 and IMO Assembly on Radio Maintenance Guidelines for the Global Maritime Distress and Safety System related to Sea Areas A3 and A4. The exam consists of questions from the following categories: radio system theory, amplifiers, power sources, troubleshooting, digital theory, and GMDSS equipment and regulations. To pass, an examinee must correctly answer at least 38 out of 50 questions.

## Telegraphy Examination Elements

**Element 1** - 16 code groups per minute.

**Element 2** - 20 words per minute.

Telegraphy exams may consist of both transmitting and receiving tests or just a receiving test. Although the FCC rules provide that passing a telegraphy receiving examination is adequate proof of an examinee's ability to both send and receive telegraphy, a COLEM may nonetheless include a sending segment in a telegraphy examination. Examinees must copy by ear and, if subject to a sending test, send by hand plain text and code groups in the international Morse code using all the letters of the alphabet, numerals 0-9, period, comma, question mark, slant mark, and prosigns AR, BT, and SK. Examinees must copy and send at the required speeds for one continuous minute without making any errors. Each test lasts approximately five minutes. The failing of any code test automatically terminates the examination. Code speeds are computed using five letters per word or code group. Punctuation symbols and numbers count as two letters each.

# Question Pools and Study Guides

Examination question pools, with answers, are available for downloading below.

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- Element 1 ([pdf \(/file/11789/download\)](#))
- Element 3 ([pdf \(/file/11790/download\)](#))
- Element 6 ([pdf \(/file/11791/download\)](#))
- Element 7 ([pdf \(/file/11792/download\)](#))
- Element 7R ([pdf \(/file/11793/download\)](#))
- Element 8 ([pdf \(/file/11794/download\)](#))
- Element 9 ([pdf \(/file/11795/download\)](#))

The FCC does not certify schools or review study materials, and the FCC does not recommend any particular school or publication.

[Testing Managers, Locations, Schedules and Fees. \(/wireless/bureau-divisions/mobility-division/commercial-radio-operator-license-program/commercial\)](#)

## Examination Procedures

Use of reference materials in commercial operator license examinations is not permitted. Do not bring any books, papers, notes, study guides, or other unauthorized aids or devices to an examination.

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### Bureau/Office:

[Wireless Telecommunications \(https://www.fcc.gov/wireless-telecommunications\)](https://www.fcc.gov/wireless-telecommunications)

### Tags:

[Commercial Operators \(/tags/commercial-operators\)](#) - [Wireless Services \(/tags/wireless-services\)](#)

### Updated:

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