

- b. Ventilation of holds and the stowage of explosives.
- c. Rigging a sea-anchor, and what means to employ to keep a vessel disabled or unmanageable out of the trough of the sea and lessen her lee drift.
- d. Rigging purchases for getting heavy weights, anchors, machinery, &c., in or out.
- e. Any questions appertaining to the duties of the mate of a home-trade ship which the Examiner may think necessary to ask.

MASTER.

In addition to the following requirements the candidate will be examined in the navigation and seamanship subjects prescribed for the grades of both second mate and first mate.

**70. Navigation :—**

- a. Find the latitude by meridian altitude of a star.
- b. Find the true azimuth of the sun or a star by Time Azimuth Tables, and deduce the compass-deviation therefrom, the variation being given.
- c. Find the longitude by chronometer from an altitude of the sun by the usual methods, computing the daily rate of a chronometer from errors observed when such is required.
- d. Find the position of the ship by two stars at twilight, or by one star combined with the bearing of a distant mountain, headland, or sounding, by the aid of Azimuth and Reduction Tables.
- e. Supply written answers to certain practical questions on the subject of compass-deviation.
- f. Understand the use of a mercurial barometer.

**71. Seamanship.**—A candidate will be required to show a knowledge of the following subjects :—

- a. How to act in the event of a fire breaking out in the ship.
- b. Rescuing the crew of a disabled ship.
- c. Management of steamships in heavy weather.
- d. Construction of rafts and jury-rudders suitable for screw-steamships.
- e. Preservation of the ship's crew and passengers in the event of wreck.
- f. Best arrangement for towing vessels under different circumstances.
- g. Law as to the engagement, discharge, and management of the crew, and the entries to be made in the official log-book.
- h. How to get a cast of the lead in heavy weather, &c.
- i. How to rig a sea-anchor.
- j. Any questions appertaining to the duties of the master of a home-trade ship which the Examiner may think necessary to ask.

MASTER OF A CARGO-VESSEL UNDER 25 TONS REGISTER.

In addition to the following requirements the candidate will be examined in the navigation subjects *a* to *f* inclusive, and in the seamanship subjects *a* to *g* inclusive, contained in the syllabus of examination for second mate, home trade.

**72. Navigation.**—A candidate must be able to—

- a. Understand the use of a Mercator's chart, and be able to find on it the course to steer and the distance from one given position to another.
- b. Find the ship's position on the chart from cross-bearings of two objects, and from two bearings of the same or different objects, the course and distance run between taking the bearings being given, also the distance of the ship from the object at the time of taking the second bearing.
- c. Find the compass deviation and error by bearings of two objects in transit.
- d. Find the times of high and low water at any place for which time differences are given in the "New Zealand Nautical Almanac."

**73. Seamanship.**—A candidate must possess a thorough knowledge of—

- a. How to act for the safety of the vessel if caught in a sudden squall.