

certificate, an only or first mate will be required to show a knowledge of the following subjects :—

- (a.) Shifting large spars, rigging shears, and taking lower masts in and out.
- (b.) How to moor and unmoor ship, keep a clear anchor, and to carry out an anchor.
- (c.) Management of a steamship in stormy weather.
- (d.) How to rig purchases for getting heavy weights, anchors, machinery, &c., in and out.
- (e.) How to dispose various kinds of cargo and weights in a stiff and in a tender vessel.
- (f.) Ventilation of holds and the stowage of explosives.
- (g.) Stowage of grain cargoes.
- (h.) The effects of the screw-race upon the rudder ; and the effect produced on the direction of the head of the ship by going ahead [astern] with a right- [left-] handed screw when the rudder is ported [starboarded]; also, the effect of twin screws under the same conditions, and when going ahead with one and reversing the other, &c.
- (i.) How to rig a sea-anchor, and what means to employ to keep a steamer, with her machinery disabled, out of the trough of the sea, and to lessen her lee drift.
- (j.) How to turn a steamship short round.
- (k.) How to get a cast of the deep-sea lead in heavy weather.
- (l.) Any other questions appertaining to the duties of a first mate of a steamship which the Examiner may think necessary to put to him.

*Master, Steamships.*

50. **Master, Steamships.**—The qualifications as to age and service are the same as for a master's ordinary certificate for a foreign-going ship (see para. 37), excepting that the whole service may have been performed in steamships, and that no service in square-rigged vessels is required. (See also para. 161.)

51. **Examination in Navigation.**—The examination in navigation for a master's certificate for foreign-going steamships will be precisely the same as that prescribed for an ordinary master's certificate. (See para. 38.)

52. **Examination in Seamanship.**—In addition to the qualifications required for the grades of second and first mate, a master will be required to show a knowledge of the following subjects :—

- (a.) Construction of rafts and jury-rudders suitable for screw-steamships.
- (b.) The preservation of the ship's crew in the event of wreck.
- (c.) Management of steamships in heavy weather.
- (d.) Rescuing the crew of a disabled ship.
- (e.) Steps to be taken when a vessel is on her beam-ends or disabled and on a lee shore.
- (f.) How to use steam appliances in the event of fire.
- (g.) Economy in coal-consumption.
- (h.) The best arrangement for towing vessels under different circumstances.
- (i.) Placing ship in dry dock, directing repairs, and the mode of procedure when putting into port in distress with damage to cargo and ship.
- (j.) Any other questions appertaining to the management of a steamship which the Examiner may think it necessary to put to him.

STEAMSHIP CERTIFICATES : HOW CHANGED.

53. A candidate possessing a certificate for foreign-going steamships, and desiring to be examined for an ordinary certificate, must prove that he has served at sea at least one year in a square-rigged sailing-vessel, unless he has previously held an ordinary certificate of a lower grade.

CERTIFICATES FOR HOME-TRADE SHIPS.

*Second Mate, Home Trade.*

54. **Second Mate, Home Trade.**—A candidate for a home-trade second mate's certificate must be not less than eighteen years of age, and must have served three years at sea or in extended river limits.