

AT THE COURT AT BUCKINGHAM PALACE.

THE 22ND DAY OF NOVEMBER, 1909.

PRESENT,

THE KING'S MOST EXCELLENT MAJESTY IN COUNCIL.

WHEREAS by section four of the Merchant Shipping Act, 1906, it is provided that sections four hundred and twenty-seven to four hundred and thirty-one of the Merchant Shipping Act, 1894 (hereinafter called the Principal Act), relating to life-saving appliances shall, after the appointed day, apply to all foreign ships while they are within any port of the United Kingdom as they apply to British ships :

Provided that His Majesty may by Order in Council direct that those provisions shall not apply to any ship of a foreign country in which the provisions in force relating to life-saving appliances appear to His Majesty to be as effective as the provisions of Part V of the Principal Act, on proof that those provisions are complied with in the case of that ship :

And whereas by section five of the said Act it is provided that the said appointed day shall be the first day of January, nineteen hundred and nine, or such other day not being more than twelve months later, as the Board of Trade may appoint :

And whereas the Board of Trade have appointed the first day of October, nineteen hundred and nine, to be the day after which the provisions of the Principal Act relating to life-saving appliances shall apply to all foreign ships while they are within any port of the United Kingdom as they apply to British ships :

And whereas it appears to His Majesty that the provisions in force in Sweden relating to life-saving appliances are as effective as the provisions of Part V of the Principal Act :

Now, therefore, His Majesty, by and with the advice of His Privy Council, is pleased to direct that the provisions of sections four hundred and twenty-seven to four hundred and thirty-one of the Principal Act shall not apply to any Swedish ship while within any port of the United Kingdom, if it is proved that the aforesaid Swedish provisions relating to life-saving appliances are complied with in the case of that ship.

ALMERIC FITZROY.

EXECUTIVE COUNCIL.

No. 50.

The following Rules relating to the Examinations of Masters and Mates in the Mercantile Marine were made by the Governor-in-Council under Sub-section (8) of Section (4) of the Merchant Shipping Ordinance, 1899, (Ordinance No. 10 of 1899), on the 7th day of February, 1910, and all rules previously in force were then cancelled.

CHAPTER I.

General Rules.

1. These Regulations are issued in pursuance of the Merchant Shipping Ordinance, No. 10 of 1899. Authority for Regulations.

In accordance with sub-section 2 of section 4 of that Ordinance, every British Ship, and every Colonial Ship exceeding 60 tons, and every Foreign Ship holding a Passenger Certificate under section 10, shall, when leaving any Port of the Colony, be provided with Officers who possess valid Certificates of Competency of a grade appropriate to their stations in the Ship, or of a higher grade, according to the following scale :— Board of Trade Regulations 1909, Sec. 1.

(a.) In any case, with a duly certificated Master.

- (b.) If the Ship is of one hundred tons or upwards, with at least one officer besides the Master holding a certificate not lower than that of Only Mate, or, of Mate of a River Steamer, in the case of a River Steamer.
- (c.) If the Ship carries more than one Mate, with at least the First and Second Mates duly certificated.

Sub-section 4 of the same Ordinance provides that the Master of any British Ship, or of any Colonial Ship, or of any Foreign Ship holding a Passenger Certificate under section 10, leaving or attempting to leave any Port of the Colony without having on board and entered on the register and Articles of Agreement officers possessing the certificates required by this section, shall be liable to a penalty not exceeding Five Hundred Dollars.

Sub-section 5 provides that every person who, having been engaged in any of the above mentioned capacities in any such ship, goes to sea in that capacity without being at the time entitled to, and possessed of, such certificate as is required by this section, and every person who employs any person in any of the above named capacities in such ship without ascertaining that he is at the time entitled to, or possessed of, such certificate, shall, for each such offence, be liable to a penalty not exceeding Two Hundred and Fifty Dollars.

Certificates granted to persons who pass examinations. H. K. Rules 05, Sec. 2.

2. Certificates of Competency will be granted to those persons who pass the requisite examination, and otherwise comply with the requisite conditions. For this purpose examiners have been appointed.

Date of examinations. Ibid. Sec. 3.

3. The examinations will commence on such a day and at such an hour as may be appointed by the Harbour Master.

Applications for examination. Ibid. Sec. 4.

4. Candidates for examination must make their applications upon the appropriate form, which must be filled in at the Harbour Office, and the Candidates' testimonials and discharges must be lodged with the Harbour Master.

The examiner should be particularly careful to ascertain that there are no gaps in the Candidate's service which are not properly accounted for, before he is allowed up for examination.

Nature of service determined by actual position on board ship. B/T Reg. 1909, Sec. 6.

5. Sea service cannot be regarded as qualifying for examination for certificates of competency unless it can be verified by reference to the articles of the ship on which it was performed, *e.g.*, service claimed by testimonial or otherwise to have been as mate when the actual rating as shown by articles was only that of boatswain or other petty officer will not be accepted where officer's service is required. Where service as first (or second) mate is required to qualify for examination the candidate must actually have held the executive position next (or next but one) to the master.

Candidates who represent themselves as having served in a higher capacity than that actually held in the ship render themselves liable to prosecution under section 104 of the Merchant Shipping Act, 1894. (See paragraph 7.)

In this connection examiners should remember that it is a common practice for officers to be rated on ships' articles as "second mate" although in reality they were only third or fourth mates and acted in one of those positions on board ship.

In every case where a candidate for a master's certificate of competency claims service as second mate, he should be requested to make a declaration in Divn. H of the Form Exn. 2, to the effect that during his service as second mate he had only one officer over him, or if more than one, that a third and fourth mate were also carried.

If the service claimed is as "auxiliary second mate" the candidate should be required to state the number of officers serving in a junior capacity.

A candidate with first mate's service should make a declaration that he was the senior officer under the master, or, if not, he must comply with the requirements of para. 82, as it has been found that in some cases the second mate has been signed on the articles as first mate, the proper first mate being called chief officer simply for examination purposes.

It must be clearly understood that the amount of service laid down in the Regulations for each grade of certificate of competency is the absolute minimum that can be accepted, and unless a candidate can show the full amount he must in no case be allowed up for examination.

6. Should any doubt exist as to the age of a Candidate, he will be required to produce a certificate of birth. Age.
Ibid. Sec. 7.

7. It is provided by section 104 of the Merchant Shipping Act, 1894, that any person who makes, assists in making, or procures to be made, any false representation for the purpose of procuring for himself or any other person a Certificate of Competency, shall, in respect of such offence, be guilty of a misdemeanour, the punishment for which is imprisonment for any period not exceeding six months, with or without hard labour, or a fine not exceeding one hundred pounds. Fraud and
misrepresentation
Ibid. Sec. 8.

8. Testimonials as to character, including sobriety, and to experience and ability, on board ship for at least the twelve months of service immediately preceding the date of application to be examined, will be required of all Candidates, and without producing them no person will be examined. Testimonials
required.
Ibid. Sec. 9.

9. Candidates who have neglected to join their vessels after having signed Articles, or who have deserted their vessels after having joined, or who have been found guilty of gross misconduct on board, will be required to produce satisfactory proofs of two years' subsequent service and good conduct at sea, unless the Harbour Master, after having investigated the matter, should see fit to reduce the time. Penalty for
misconduct
Ibid. Sec. 10.

10. If during the progress of the examination the examiner finds that a candidate is afflicted with deafness, with an impediment in his speech, or with some other physical or mental infirmity, and he is satisfied upon further investigation that the degree of deafness or of the impediment or other infirmity is such as to render the candidate incompetent to discharge the ordinary duties of a mate or master at sea he should not allow the candidate to complete his examination and should return his examination fee; but every case in which this action is taken must be reported to the Board of Trade. Deafness and
other physical
and
mental dis-
abilities.
Ibid. Sec. 11.

If the candidate subsequently produces a medical certificate to the effect that his hearing, speech, or physical or mental condition has improved or is normal, the Board will take into consideration the question of allowing the candidate to sit again for examination.

11. Foreigners must prove to the satisfaction of the examiners that they can speak and write the English language sufficiently well to perform the duties required of them on board a British vessel. Foreigners
to know
English
Ibid. Sec. 12.

12. If, after a Candidate has passed the examination it is discovered on further investigation that his services are insufficient to entitle him to receive a Certificate of the grade for which he has passed, the Certificate will not be granted to him, but if the Harbour Master is satisfied that the error in the calculation of the Candidate's services did not occur through any fault or wilful misrepresentation on his part, he may be granted a Certificate of such lower grade as his service entitles him to. The superior Certificate will not be granted until the Candidate has performed the amount of service in which he was deficient, and has been re-examined in all the subjects, unless the Harbour Master sees fit to dispense with the re-examination. Service
found to be
insufficient.
Ibid. Sec. 13.

13. In all cases of failure the Candidate must be examined anew. If a Candidate fails in Seamanship he will not be re-examined until after a lapse of six months. Whether the whole or part of this period must be served at sea must depend upon the subjects in Seamanship in which the Candidate failed, but the amount of further sea service to be required will be left to the discretion of the examiner. Failure.
Ibid. Sec. 14.

14. If a Candidate fails three times in Navigation within three months, he will not be re-examined until after a lapse of three months from the date of the last failure. Failure in
Navigation.
Ibid. Sec. 15.

15. If a Candidate fails in his examination for an Ordinary certificate, and the subjects in which he has failed are not included in the syllabus prescribed for a Certificate of a lower grade, he may, if he so desires, be examined for the lower grade Certificate without further formal application or payment of fee, but he will be required to complete the whole of the work prescribed for such lower grade; that portion (if any) already done standing good. Candidate
failing may
be examined
for certificate
of lower
grade.
Ibid. Sec. 16.

No part, however, of the fee he has paid will be returned to him, and on presenting himself, when qualified, for re-examination for the higher Certificate, he will be required to pay a further full fee.

Failure for spelling, &c. Ibid. Sec. 20.

16. If a Candidate fails for bad spelling or writing, he will not be re-examined until after a lapse of at least three months. If he fails for ignorance of the English language, he will not be re-examined until after the lapse of six months.

Failure in Seamanship. Ibid. Sec. 21. abridged.

17. If a Candidate fails in Seamanship so far as regards the management of square rigged sailing vessels, in his examination for an Ordinary Certificate, he may, if qualified as to service, without further formal application or further payment of fee, proceed with the examination for a Certificate of Competency for Foreign-going Steamships, or for fore and aft rigged vessels.

Fee always paid first. Ibid. Sec. 22.

13. Candidates for examination, in making their application on form Exn. 2 will be required to pay the examination fee before any step is taken in the way of inquiring into their services or testing their qualifications. If the Candidate is found not to be qualified the fee will be returned.

Where to pay fees. Ibid. Sec. 23.

19. The fee for examination must be paid to the Officer deputed for that purpose by the Harbour Master, in the Harbour Office. If a Candidate offers a gratuity to any Officer of the Department, he will be regarded as having committed an act of misconduct, and will be rejected, and not allowed to be again examined for twelve months, either at the Port where the offence was committed, or at any other Port.

Fees not returned on failure. Ibid. Sec. 24.

20. If a Candidate fails to pass the examination, no part of the fee will be returned to him.

Fees.

21. The fees are as follows :—

For Foreign-going Ships.

| | |
|---------------------------|---------|
| Second Mate, | \$15.00 |
| First or Only Mate, | 15.00 |
| Master, | 20.00 |

For River Steamers.

| | |
|---------------|---------|
| Mate, | \$15.00 |
| Master, | 20.00 |

Voluntary examination in Semaphore and Morse Signalling, \$10.

Note 1.—No abatement will be made to the fee charged to a Candidate in consequence of his possessing a Certificate of a lower grade.

Note 2.—The same fee will be charged, after failure, on each occasion a Candidate presents himself for re-examination.

First aid to the injured. Ibid. Sec. 26.

22.—(1.) Every Candidate for a Certificate of Competency of any grade will be required to produce a Certificate from the St. John Ambulance Association, the St. Andrew's Ambulance Association or the London County Council to the effect that he has passed an examination in First Aid to the Injured.

(2.) The Certificate must be an adult Certificate, *i.e.*, obtained by the Candidate when sixteen years of age or more, and the examination for it must have been passed not more than three years before the date of the examination for the Certificate of Competency.

(3.) If a Candidate does not possess such a Certificate of proficiency in First Aid he should apply some time before he wishes to sit for examination for a Certificate as Master or Mate to the local secretary of the St. John or St. Andrew's Ambulance Association, who will inform him of the available facilities for the instruction and examination of Candidates in First Aid. A list of the names and addresses of the local secretaries of the Associations is given in Appendix C, page 60 in B T Regulations.

(4.) Besides the courses of instruction which are provided on shore at the ports in the United Kingdom, at which examinations for Certificates as Master and Mate are held, courses of instruction given by qualified surgeons on board merchant vessels will be accepted by the St. John Ambulance Association as qualifying the Candidate for examination for their Certificate of proficiency in First Aid, provided the surgeon certifies that he has followed the syllabus of instruction laid down by the Association.

(5.) The St. Andrew's Ambulance Association will also accept instruction by a ship's surgeon on board ship as qualifying a Candidate for examination for their Certificate of proficiency in First Aid, provided their syllabus is followed. In this case the Candidate must previously have enrolled and obtained an attendance card by applying to the local secretary of the Association, or to the head office at 176, West Regent Street, Glasgow.

(6.) It will not be necessary for the Candidate for a Certificate as Master or Mate in all cases to produce the formal Certificate of proficiency in First Aid issued by the Associations. In order to prevent delay in proceeding with the examination for the Certificate as Master or Mate and in the issue of the Certificate to successful Candidates, the special Mercantile Marine linen Certificate issued by the St. John Ambulance Association and duly signed by the Lecturer, the Surgeon Examiner and the Association's local representative, or, in Scotland, a certificate signed by the Local Examiner of the St. Andrew's Ambulance Association, to the effect that the Candidate has passed the examination for a Certificate of proficiency, may be accepted as showing that the Candidate possesses the required knowledge of First Aid.

Sight Tests.

23. Every Candidate for a Certificate of Competency of any grade must pass the three sight tests before he can proceed to the examination in Navigation and Seamanship. Sight Tests.
B/T Reg.
Sec. 27.

(1.) The sight tests are open to all persons serving or intending to serve in the Mercantile Marine, and all such persons are recommended to take the earliest opportunity of ascertaining by means of these tests whether their vision is such as to qualify them for service in that profession.

(2.) The three tests are :—

- (a.) Form vision test.
- (b.) Colour vision test.
- (c.) Colour ignorance test.

No Candidate will be examined in the colour vision test until he has passed the form vision test, or in the colour ignorance test until he has passed the colour vision test.

This rule must be observed whether the Candidate has or has not on any previous occasion passed the sight tests.

(3.) Any person serving or intending to serve in the Mercantile Marine, if desirous of undergoing the form vision, colour vision, and colour ignorance tests *only*, must make application to the Harbour Master, and pay a fee of Fifty Cents.

This fee will be payable on each occasion upon which a Candidate is examined in form vision and colour tests *only*.

(4.) Candidates who fail to pass the form vision test or the colour ignorance test can be re-examined at intervals of three months, but Candidates who fail to pass the colour vision test cannot be re-examined. It is open, however, to any Candidate who has failed to pass the colour vision test to appeal to the Board of Trade, who may, if they think fit, remit the case to a special examiner or body of examiners for final decision.

(5.) The special examinations will be held in London only.

(6.) When a Candidate fails to pass the colour vision test, the examiner will point out to him the conditions under which he can appeal. Appeals are to be made through the examiner, and forwarded to the Board of Trade with the examiner's remarks.

(7.) The fee paid for examination for a Certificate of Competency includes the fee of fifty cents for examination in form vision, colour vision, and colour ignorance, and if the Candidate fails to pass these tests, this fee will, with the exception of fifty cents, be returned to him.

(8.) Only examiners who have themselves passed the colour vision test are to undertake these examinations.

(9.) Whenever the holder of a Certificate of Competency fails to pass any one of the three tests, there is reason to believe that he is from incompetency unfit to discharge his duties, and in the public interest the Board of Trade may cause an enquiry to be held by a Court, having jurisdiction to cancel or suspend such Certificate; but in the alternative, the Board of Trade may accept the voluntary surrender of the Certificate until such time as the Candidate succeeds in passing the test in which he failed.

Form Vision.
Ibid. Sec. 28.

24. The Board of Trade have decided that on and after January 1st, 1914, the standard of form vision in the sight tests shall be raised to that specified in Appendix O on page 122, B.T Regulations, subject to the condition that Candidates who before the above date shall have obtained any Certificate of Competency as Master or Mate (foreign-going or home trade), shall have the option of undergoing the present tests and shall not, in order to obtain Certificates of higher grades, be required to pass the more severe test.

From November 1st, 1909, it will be possible for any person serving or intending to serve in the Mercantile Marine to be examined with reference to the higher standard and if he passes, he may receive a Certificate to that effect, or if he holds a Certificate of Competency, the fact of his having passed the higher standard may be endorsed upon it.

The examiners should in all cases point out to boys and others coming up for the Sight Tests that unless they are in possession of a Certificate of Competency by the 1st January, 1914, they will after that date be required to pass the new standard of Form Vision as laid down in Appendix O, whether they are coming up for a Certificate of Competency or for examination in the Sight Tests only.

Signalling.

Semaphore
and Morse
Signalling.
Ibid. Sec. 86.

25. It shall be open to any officer holding or candidate for a Certificate of Competency as Master or Mate to undergo an examination in practical proficiency in the Semaphore and Morse systems of signalling. And should the candidate pass this examination, the fact, with the date and place of passing shall be recorded on his Certificate of Competency.

The standard of efficiency in signalling required from Candidates for the voluntary examination in signalling after 1st July, 1908, will be as follows :—

Candidates must be capable of sending and reading signals made by :—

(1.) Semaphore at a rate of 10 words per minute.

(2.) Morse, flashing and flag-waving, at a rate of 6 words per minute (the average length of a word to be calculated at 5 letters).

The Semaphore test will be a prose message of about 30 words.

The Morse, flashing and flag-waving, test will be a test message (see the British Signal Manual), followed by a prose message of about 30 words.

The Candidate must attain a degree of accuracy of at least 90 per cent. in reading both Semaphore and Morse signals.

Each Candidate will be orally examined as to his knowledge of the International Signal Book and the British Signal Manual. With regard to the latter special attention will be paid to the prescribed procedure of signalling, both by day and night, between H.M. ships and the Mercantile Marine.

A Signalling Certificate issued by a recognised Naval Signalling School will be accepted in lieu of this examination.

Service in Foreign Vessels.

B.T Circular
497. May
1894.

26. With reference to the latter portion of paragraph 79 which exempts applicants, in certain special cases, from the requirement that Officers' Service must be performed with the requisite Certificate, it is to be clearly understood that this exemption does not apply to Foreign Officers serving in foreign vessels.

Foreign Officers who may be desirous of obtaining British Certificates of Competency in the Mercantile Marine will be required to comply strictly, whatever may be their rank in the Mercantile Marine of their own country, with the requirements of the first part of paragraph 80, viz., they must have performed their Officer's Service with the requisite British Certificate.

This service, however, may have been performed in foreign vessels, provided that the applicant can produce satisfactory testimonials as to conduct and character, and is able to prove that the service has been in the required capacities, and that during such service he has held a British Certificate of Competency of the rank required by the Regulations.

Suspension or Cancellation of Certificates.

27. Certificates are liable to suspension or cancellation—
- (1.) On an investigation ordered by the Governor under Ordinance 10 of 1899, into the incompetence or misconduct of the possessors. Colonial Regulations 1897. Para. 11.
 - (2.) By Courts of Inquiry into shipping casualties under Ordinance 10 of 1899.
 - (3.) By Courts of Formal Investigation or Inquiry, or by Naval Courts, under the Merchant Shipping Act, 1894.
 - (4.) By legally constituted Courts in any British Possession subject to the provisions of the Merchant Shipping Act, 1894, and the Orders in Council relating thereto.
28. No Certificate which has been cancelled will be re-issued or renewed without the express sanction of the Governor. Ibid.

CHAPTER II.

Qualifications Required for the Various Grades.

Certificates for Foreign-going Ships, or Ordinary Certificates.

29. A Candidate for an Ordinary Certificate of any grade who has not previously held an Ordinary Certificate of a lower grade must prove that he has served 12 months in the Foreign Trade, or 18 months in the Home, or Coasting Trade, in a square-rigged sailing vessel. Square-rigged service required. B/T Reg. 09, Sec. 29.
30. Ordinary Certificates will entitle the holders to go to sea as Mates or Masters of any vessel, sailing or steam. Value of Ordinary Certificates. Ibid. Sec. 30.
31. SECOND MATE.—A Candidate must not be less than seventeen years of age, and must have served four years at sea. Second Mate Ordinary. Ibid. Sec. 31.
32. EXAMINATION IN NAVIGATION.—A Candidate for a Second Mate's Certificate will be required:—
- (a.) To write a legible hand and spell correctly. This will be tested by not less than a quarter of an hour's dictation.
 - (b.) To write short definitions of various astronomical and other terms, and to draw rough sketches or diagrams to illustrate their meaning.
 - (c.) To show a competent knowledge of the first five rules of arithmetic and the use of logarithms.
 - (d.) To work a day's work complete, correcting the courses for leeway, deviation, and variation.
 - (e.) To find the latitude by meridian altitude of the sun.
 - (f.) To work any practical problem in parallel sailing.
 - (g.) To find the true course and distance from one given position to another by Mercator's method; also the compass course, the variation and deviation being given.
 - (h.) To find the time of high water at a given port.
 - (i.) To find the true amplitude of the sun and the error of the compass therefrom; also the deviation, the variation being given.
 - (j.) To find the longitude by chronometer from altitude of the sun by the usual methods, computing the daily rate of chronometer from errors observed, when required; also to find the true azimuth of the sun, and the error of the compass; and the deviation, the variation being given.
 - (k.) To find the true azimuth of the sun by the "Time Azimuth" tables; the error of the compass; also the deviation, the variation being given.
- Navigation. Ibid. Sec. 32.

- (l.) To find on either a "true" or "magnetic" chart* or plan the course to steer and the distance from one given position to another; to find the ship's position on the chart or plan from cross-bearings of two objects; to find the ship's position from two bearings of the same object, 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; and to state what the small numbers and Roman numerals found on a chart indicate, and give a method of finding approximately the time of high water at any given place without the aid of the Admiralty or other Tide Tables.

He will be required to answer *viva voce* questions on the following subjects:—

- (m.) The Morse and British Movable Semaphore Alphabets, the International Code of Signals, and the British Signal Manual.
- (n.) The use and adjustments of the sextant, read off and on the arc, and the mode of finding the index error by both horizon and sun.
- (o.) The construction, use and principle of the barometer, thermometer and hydrometer. Also the use and care of a chronometer.
- (p.) Weights and measures.

Seamanship
B/T Reg.
09. Sec. 33.

33. EXAMINATION IN SEAMANSHIP.—He must understand and give satisfactory answers on the following subjects:—

- (a.) The standing and running rigging of ships.
- (b.) Bending, unbending, setting, reefing, taking in, and furling sail.
- (c.) Sending masts and yards up and down.
- (d.) Management of a ship when under canvas.
- (e.) Management of ship's boats in heavy weather.
- (f.) Dunnaging, stowing cargo, &c.
- (g.) The Rule of the Road as regards both steamers and sailing vessels, their regulation lights and fog and sound signals.
- (h.) The signals of distress, and the signals to be made by ships wanting a pilot, and the liabilities incurred by the misuse of these signals.

Only Mate
Ordinary.
B/T Reg.
Sec. 34.

34. ONLY MATE.†—A Candidate must be not less than 19 years of age, and have served five years at sea.

First Mate
Ordinary.
Ibid. Sec. 35.

35. FIRST MATE.—A Candidate must be not less than 19 years of age, and have served five years at sea, of which—

- (a.) one year must have been in a capacity not lower than Fourth Mate of a foreign-going vessel whilst holding a Second Mate's Certificate for foreign-going vessels. If his service was as Third or Fourth Mate, proof will be required that he had, during the whole year, *charge of a watch* (para. 81);
- (b.) *or* one year and a half must have been in a capacity not lower than Only Mate in a home trade or coasting vessel while holding a Second Mate's Certificate for foreign-going vessels, or a Master's Certificate for home trade passenger ships;
- (c.) *or* one year must have been as Pilot with a First Class Pilot's Certificate (para. 78).

Mate
Ordinary
Navigation.
Ibid. Sec. 36.

36. EXAMINATION IN NAVIGATION.—A Candidate for an Only or First Mate's Certificate will be required:—

- (a.) To work out any three of the nautical problems prescribed for the Second Mate's examination which may be given

* The short terms "true" and "magnetic" are used for brevity and convenience throughout the Regulations to indicate charts which have compasses engraved upon them showing the true or magnetic points of the compass respectively.

† For convenience of calculation the service required is stated in tabular form in Appendix B.

- him by the examiner, in addition to the chart paper (l) and the oral subjects (m), (n), (o), (p), prescribed for that grade.
- (b.) To compute the time at which a given star will be on the observer's meridian. (Occasionally by inspection.)
 - (c.) To describe where tables giving the names of the principal stars passing the meridian may be found.
 - (d.) To describe where the time of meridian passage of the principal planets may be found.
 - (e.) To determine what bright stars will be within an hour, or more, of the observer's meridian, above the pole and above the horizon, at any given time; also the hour angle, east or west, of each of the stars, and whether to the north or south of the observer's zenith when passing the meridian.
 - (f.) To describe any maps or diagrams which the Candidate knows and prefers for further facilitating the recognition of the stars and planets.
 - (g.) To compute the approximate meridian altitude of one of the stars just found, for setting the sextant.
 - (h.) To find the latitude from the meridian altitude of the same star.
 - (i.) To find the longitude by chronometer by altitude of a star.
 - (j.) To find the true azimuth of a star by the "Time Azimuth" tables, and get the deviation therefrom.
 - (k.) To find the latitude by ex-meridian altitude of sun or star.
 - (l.) To find the line of position and the true bearing of the sun, and the ship's position, by Sumner's method, by projection.
 - (m.) To answer certain questions relative to cyclones or revolving storms.
 - (n.) To find on a chart or plan the course to steer by compass in order to counteract the effect of a given current, and find the distance the ship will make good towards a given point in a given time; to fix a ship's position on a chart or plan by horizontal sextant angles, using a station pointer; and to work out practically the correction to apply to soundings taken at a given time and place to compare with the depth marked on the chart.

He will be required to answer *viva voce* questions on the following subjects :—

- (o.) How to keep a ship's log book.
- (p.) How to calculate the capacity of a given bunker or hold.
- (q.) How to calculate a freight and its commissions.
- (r.) The measurement and equipment of ship's life boats and number of persons allowed to be carried in each class of boat.
- (s.) Testing of life-buoys and life-belts.
- (t.) The screening of ship's side lights.
- (u.) To show a knowledge of the Semaphore and Morse Alphabets and of the British Signal Manual.

37. EXAMINATION IN SEAMANSHIP.—In addition to the qualifications required for a Second Mate's Certificate, an Only or First Mate will be required to show a knowledge of the following subjects :—

- (a.) Shifting large spars, rigging sheers, taking lower masts in and out.
- (b.) How to moor and unmoor ship; to keep a clear anchor; and to lay out an anchor.
- (c.) How to manage a ship in stormy weather, and to cast a ship on a lee shore.
- (d.) How to secure the masts in the event of an accident to the bowsprit.
- (e.) How to rig purchases for getting heavy weights, anchors, machinery, &c., in or out.
- (f.) How to dispose various kinds of cargo and weights in a stiff, and in a tender vessel.

First Mate
Ordinary
Seamanship
B/T Reg.
Sec. 37.

- (g.) The ventilation of holds, and the stowage of explosives.
- (h.) The stowage of grain cargoes.
- (i.) How to rig 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.
- (j.) How to get a cast of the deep sea lead in heavy weather.
- (k.) Accidents, and how to deal with them.
- (l.) Any other questions appertaining to the duties of an Only or First Mate which the examiner may think necessary to ask.
- (m.) Also questions on the additional subjects which are specified in the rules of examination for Only and First Mate's Certificates of Competency for foreign-going steamships.

Master
Ordinary.
Ibid. Sec. 38.

38. MASTER.—A Candidate must not be less than 21 years of age, and—

- (a.) he must have served six years at sea, of which one year must have been in a capacity not lower than Only Mate of a foreign-going vessel, whilst holding a Certificate not lower than that of Only Mate for foreign-going vessels, provided that, if this service as Officer was not performed whilst holding a First Mate's Certificate for foreign-going vessels, the Candidate will also be required to prove the Officer's service prescribed for that grade (para. 35);
- (b.) *or*, he must have served six years at sea, of which one year and a half must have been in a capacity not lower than Only Mate of a home trade or coasting vessel while holding a Certificate not lower than that of an Only Mate for foreign-going vessels, provided that, if this service as Officer was not performed while holding a First Mate's Certificate for foreign-going vessels, the Candidate will also be required to prove the Officer's service prescribed for that grade (para. 35);
- (c.) *or*, he must have served six and a half years at sea, one year of which must have been in a capacity not lower than Second Mate of a foreign-going vessel whilst holding a First Mate's Certificate for foreign-going vessels, provided that, if this service as Second Mate was performed under an Additional or Auxiliary First Mate it will only be accepted if a Third and Fourth Mate were also carried *and* one year and a half not lower than Third or Fourth Mate of a foreign-going vessel *in charge of a watch* whilst holding a Second Mate's Certificate for foreign-going vessels;
- (d.) *or* he must have served nine years at sea in the home or coasting trade: of which three years must have been as Master *or* one year as Master and three years in a capacity not lower than that of Mate, provided that in either case, he has served in such capacity for not less than one year with a Second Mate's Certificate for foreign-going vessels or a Master's Certificate for home trade passenger ships.

Master
Ordinary
Navigation.
Ibid. Sec. 39.

39. EXAMINATION IN NAVIGATION.—A Candidate for an Ordinary Master's Certificate will be required to work out any twelve of the nautical problems prescribed for the grades of Second and First Mate that may be given him by the examiner, in addition to the chart paper, the cyclone paper, and the oral subjects prescribed for the grades of Second and First Mate. He will also be required:—

- (a.) To find the latitude by altitude of the Pole Star at any time.
- (b.) To find the latitude by meridian altitude of the moon.
- (c.) To find the magnetic bearing of any fixed object when at sea or at anchor, from bearings of the object taken with the ship's head on equidistant compass points, and to compute the deviation therefrom; to construct a deviation curve upon a Napier's diagram which will be furnished by the examiner, and show that he understands its practical application; to give satisfactory written and oral answers to certain practical questions as to the effect of the ship's iron upon the compasses, and the method of determining the deviation, and show

how to compensate the deviation by magnets and soft iron by the aid of Beall's Compass Deviascope.

He will be required to answer *viva voce* questions on the following subjects :—

- (d.) The law as to the engagement and discharge and management of the crew, and the entries to be made in the official log.
- (e.) How to prevent and check an outbreak of scurvy on board ship.
- (f.) The law as to load-line marks, and the entries and reports to be made respecting them.
- (g.) Invoices, Charter Party, Bills of Lading, Lloyd's Agent, nature of Bottomry, Bills of Exchange, Surveys, Averages, &c.
- (h.) The prevailing winds and currents of the globe.
- (i.) The trade routes.
- (j.) Tides.

40. EXAMINATION IN SEAMANSHIP.—In addition to the qualifications required for the grades of Second and First Mate, an Ordinary Master will be required to show a knowledge of the following subjects :—

Master
Ordinary
Seamanship.
Ibid. Sec. 40.

- (a.) Construction of jury rudders for both wooden and iron vessels, also rafts.
- (b.) Resources for the preservation of the ship's crew in the event of wreck.
- (c.) Management of ship in heavy weather.
- (d.) Rescuing the crew of a disabled vessel.
- (e.) Steps to be taken when a ship is on her beam ends, or in any danger or difficulty, or disabled or unmanageable and on a lee shore.
- (f.) Heaving a keel out.
- (g.) How to proceed when placing a ship in dry dock, and directing repairs, and when putting into port in distress with damage to cargo and ship.
- (h.) Any other questions of a like nature appertaining to the management of a ship which the examiner may think it necessary to ask.
- (i.) Also questions on the additional subjects which are specified in the rules of examination for Masters' Certificate of Competency for foreign-going steamships.

Special Regulations relating to the Examination of Masters and Mates to apply only where the Candidate has served an Apprenticeship in an approved Sea-going training ship with a view to promotion in the Service of the Company to which the training ship is attached.

41.—(1.) The training ship must be a sea-going, cargo-carrying, square-rigged sailing vessel and the course of study and practical training which the cadets receive must be approved by the Board of Trade.

Recognition
of service on
the training
ship as
qualifying
for examina-
tion for a
certificate
as Second
Mate.
Ibid. Sec. 41.

At the end of four years' service in the training ship the cadet will be qualified for examination for a certificate as Second Mate provided :—

- (1.) he can produce a testimonial to the effect that both his conduct and his ability have given satisfaction during the whole period and
- (2.) that he has served at sea for not less than four-fifths of the time; that is to say has not spent more than one-fifth of the time in home ports.

If the cadet has served previously for two years in either the "Conway" or the "Worcester" training ship, this time will be allowed to count as one year's qualifying service and he will be required to serve for three years only in the Company's training ship before he can be allowed up for examination for a certificate as 2nd Mate (ordinary).

Recognition of service as junior officer as qualifying for examination for a certificate as First Mate. (2.) A candidate who has served for four (or three) years on the training ship may be allowed up for examination for a certificate as First Mate (ordinary) when he has served, whilst holding a certificate as 2nd Mate, for two years as junior bridge-keeping officer of the watch upon vessels of the Company satisfying certain requirements (see paragraph 4).

Recognition of service (a) as senior officer and (b) as senior of the junior officers as qualifying for examination for a certificate as Master. (3.) A candidate who has obtained a certificate as First Mate in the above way may be allowed up for examination for a certificate as Master (ordinary) when he has served for eighteen months, whilst holding the certificate as First Mate, as a senior watch-keeping officer upon vessels of the Company satisfying the same requirements (see paragraph 4).

If the candidate has served for eighteen months as senior of the junior officers, *i.e.*, the officer next below the junior of the officers in full charge of the watch, whilst holding the certificate as First Mate he may be allowed up for examination for a certificate as Master (ordinary) on the understanding that the certificate as Master would not be issued to him until he had completed twelve months service as senior watch-keeping officer, the service in both cases to be performed on vessels satisfying the same requirements (see paragraph 4).

Limits of application of paragraphs 2 and 3. (4.) The special regulations (paragraphs 2 and 3) in regard to the acceptance of service as qualifying for the examinations for certificates as First Mate and Master shall apply only when the service is performed in the specified capacities upon ocean-going steamers of not less than 8,000 tons gross, making an average speed of 16 knots or upwards and carrying a crew of not less than 130 men including at least six deck officers beside the Master.

Certificates for Foreign-going Fore and Aft Rigged Vessels.

Fore & Aft Certificates. Ibid. Sec. 42. 42. Certificates for the grades of Master, First Mate, Only Mate, and Second Mate of fore and aft rigged vessels will be issued to Candidates who have not complied with the regulation which requires them to have served at least one year in square-rigged sailing vessels, or who prove in course of examination that they are ignorant of the management of square-rigged ships. In other respects the qualifications for examination for such Certificates are the same as for Ordinary Certificates.

Character of examinations. Ibid. Sec. 43. 43. The examinations for the grades of Second Mate, Only Mate, First Mate, and Master, of fore and aft rigged vessels will be precisely the same as for the Ordinary Certificates, excepting that in seamanship a knowledge of the management of square-rigged vessels is not required.

Value of Certificates. Ibid. Sec. 44. 44. A Certificate for fore and aft rigged vessels will not entitle the possessor to act in any case in which a Certificate for square-rigged vessels is required. Amongst square-rigged vessels are classed full-rigged ships, barques, brigs, barquentines, brigantines, and steamships carrying square sails.

Service for Ordinary Certificate. Ibid. Sec. 45. 45. A Candidate possessing a Certificate for fore and aft rigged vessels, 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 Foreign-going Steamships.

Steamship Certificates. Ibid. Sec. 46. 46. Certificates applying only to steamships are issued to Candidates who are either unable to comply with the regulation which requires them to have passed one year in square-rigged sailing vessels or who prove in course of examination that they are ignorant of the management of square-rigged vessels. All the qualifying Officers' service prescribed for these Certificates must have been performed in steamships.

These Certificates will entitle the holder to go to sea as Masters or Mates of foreign-going steamships but will not entitle them to go to sea as Masters or Mates of foreign-going sailing ships.

There will be no distinction in these Certificates between fore and aft rigged steamships and square-rigged steamships.

47. SECOND MATE.—The qualifications as to age and service are the same as for an Ordinary Second Mate's Certificate (see para. 31), except that no service in square-rigged sailing vessels is required. Second Mate
Steamship.
Ibid. Sec. 47.

48. EXAMINATION IN NAVIGATION.—The examination in navigation for a Second Mate's Certificate for foreign-going steamships will be precisely the same as that prescribed for an Ordinary Second Mate's Certificate. Navigation.
Ibid. Sec. 48.

49. EXAMINATION IN SEAMANSHIP.—The Candidate must understand and be able to give satisfactory answers on the following subjects:— Seamanship.
Ibid. Sec. 49.

- (a.) The standing and running rigging of steamships.
- (b.) Bending, unbending, setting, reefing, taking in and furling sail.
- (c.) Sending masts and yards up and down.
- (d.) Seeing everything in readiness and clear for getting under way, and the precautions to be then observed with regard to engines, propeller, &c.
- (e.) Care and usage of patent logs and leads.
- (f.) Management of ships' boats in heavy weather.
- (g.) Dunnaging and stowing cargo.
- (h.) The Rule of the Road as regards both steamers and sailing vessels, their regulation lights, and fog and sound signals.
- (i.) Signals of distress, and signals to be made by ships wanting a pilot, and the liabilities and penalties incurred by the misuse of these signals.
- (j.) The marking and use of the lead and log lines.
- (k.) The construction, use, and action of the sluices, and of the water-ballast tanks.
- (l.) Engine-room and other telegraphs used on board ship, and deck appliances generally.
- (m.) Use and management of the rocket apparatus in the event of a vessel being stranded.
- (n.) Any other questions of a like nature appertaining to the duties of the Second Mate of a steamship which the examiner may think it necessary to ask.

50. ONLY MATE.—The qualifications as to age and service are the same as for an Only Mate's Ordinary Certificate, (see para. 34), excepting that the service required as Officer must have been in steamships, and that no service in square-rigged vessels is required. Only Mate
Steamships.
Ibid. Sec. 50.

51. FIRST MATE.—The qualifications as to age and service are the same as for a First Mate's Ordinary Certificate, (see para. 35), excepting that the service required as Officer must have been in steamships, and that no service in square-rigged vessels is required. First Mate.
Ibid. Sec. 51.

52. EXAMINATION IN NAVIGATION.—The examination in navigation for an Only or First Mate's Certificate for foreign-going steamships will be precisely the same as that prescribed for an Ordinary First Mate's Certificate (see para. 36). Navigation.
Ibid. Sec. 52.

53. EXAMINATION IN SEAMANSHIP.—In addition to the qualifications required for a Second Mate's Certificate, an Only or First Mate will be required to show a knowledge of the following subjects:— Seamanship.
Ibid. Sec. 53.

- (a.) Shifting large spars; rigging sheers; 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 stowage of explosives.
- (g.) Stowage of grain cargoes.
- (h.) The effect 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 helm is ported (*starboarded*): also, the effect of twin screws under the same conditions, and when going ahead with one and astern with the other, &c., &c.

- (i.) How to rig a sea anchor, and what means to employ to keep a steamer, with her engines disabled, out of the trough of the sea, and 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 of a like nature appertaining to the duties of a First Mate of a steamship which the examiner may think necessary to put to him.

Master.
Steamships.
Ibid. Sec. 54.

54. MASTER.—The qualifications as to age and service are the same as for a Master's Ordinary Certificate for a foreign-going ship (see para. 38), excepting that the service required as Officer must have been performed in steamships, and that no service in square-rigged vessels is required.

Navigation.
Ibid. Sec. 55.

55. 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. 39.)

Seamanship.
Ibid. Sec. 56

56. 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 ship 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 of a like nature, appertaining to the management of a steamship which the examiner may think it necessary to put to him.

Steamship
Certificates
how
changed.
Ibid. Sec. 57.

57. 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.

Certificate of Competency for River Steamers.

Ibid. Sec. 58.

58. MATE.—A Candidate must be not less than nineteen years of age, and have served four years at sea.

Ibid. Sec. 59.

59. EXAMINATION IN NAVIGATION, &c.—He must write a legible hand and spell correctly, and understand the first five rules of arithmetic, both simple and compound.

He must be able to take a bearing by compass, and be conversant with the use of Mercator's Chart, and be able to find, on either a "true" or "magnetic" chart, the course to steer, and the distance from one given position to another; to find the ship's position on the chart from cross bearings of two objects; from two bearings of the same object, the course and distance run between taking the bearings being given; and the distance of the ship from the object at the time of taking the second bearing; and to state what the small numbers and Roman numerals found on a chart indicate, and give a method of finding approximately the time of high water at any given place without the aid of the Admiralty or other Tide Tables. *see* Appendix R, B T Regulations. He must also know both the Morse and British Movable Semaphore Alphabets, and have a good working knowledge of the International Code of Signals and British Signal Manual.

60. EXAMINATION IN SEAMANSHIP.—He must possess a thorough knowledge of the Rule of the Road as regards both steamers and sailing vessels, their regulation lights, and fog and sound signals. He must be able to describe the signals of distress, and the signals to be made by ships wanting a pilot, and the liabilities and penalties incurred by the misuse of these signals; also the use and management of the rocket apparatus in the event of his vessel being stranded. He must be able to mark and use the lead and log lines, to moor and unmoor a vessel, and to manage a ship's boat in heavy weather, &c., &c. He must also understand the construction, use, and action of the bulkhead sluices, the engine-room telegraph, &c., and to answer any other questions of a like nature appertaining to the duties of the Mate of a River Steamer which the examiner may think proper to put to him. Ibid. Sec. 60.

61. MASTER. † —A Candidate must be not less than twenty years of age and have served five years at sea, of which— Ibid. Sec. 61.

- (a.) one year must have been in a capacity not lower than that of Mate in a River Steamer, or of Only Mate of a home trade or coasting vessel, while holding a Mate's Certificate for home trade passenger ships, or a Second Mate's Certificate for foreign-going vessels;
- (b.) or, two and a half years must have been in a capacity not lower than Second Mate of a home trade vessel *in charge of a watch*, whilst holding a Mate's Certificate for home trade passenger ships, or a Second Mate's Certificate for foreign-going vessel (*see* para. 81).
- (c.) or, one year must have been as Pilot with a First Class Pilot's Certificate (*see* para. 78).

62. EXAMINATION IN NAVIGATION.—In addition to the qualifications required of a Mate of a River Steamer a Master will be required to find on a chart the course to steer by compass in order to counteract the effect of a given current and to find the distance the ship will make good towards a given point in a certain time, and to *work out practically* the correction to apply to soundings taken at a given time and place, to compare with the depth marked on the chart; also, to fix the ship's position by horizontal sextant angles, using the station pointer for plotting it on the chart or plan, &c. He will also be required to understand the use of the sextant, to be able to observe with it, to read *off* and *on* the arc, and to find the index error by the horizon. He will also be required to find the latitude by a meridian altitude of the sun, and to give written answers to certain practical questions on the subject of the deviation of the compass. *See also supplementary viva voce test, sec. 127.* Ibid. Sec. 62.

63. EXAMINATION IN SEAMANSHIP. — In addition to the qualifications required of a Mate of River Steamers a Master must understand how to rig a sea anchor, and what means to apply to keep a steamship with machinery disabled out of the trough of the sea, &c. How to get a cast of the lead in heavy weather, &c. He will be examined as to his resources for the preservation of the crew and passengers in the event of wreck, and the steps to be taken if his vessel is disabled and drifting towards a lee shore, and will be required to answer any other questions appertaining to the management of a River Steamer which the examiner may think necessary to put to him. Ibid. Sec. 63.

Provisional Certificates.

64. Provisional Certificates for foreign-going ships or for foreign-going steamships, according to the candidate's qualifications, are granted on the conditions stated below to any officer of the Mercantile Marine who may require such a certificate to qualify him for appointment to or promotion in the Royal Naval Reserve. These certificates are only issued for Royal Naval Reserve purposes, and do not authorise the holders to go to sea as First Mate or Master. Provisional Certificates. Ibid. Sec. 81.

65. Candidates for these certificates must apply at a Mercantile Marine Office, fill up the form of application (Exn. 2), and pay the usual fee. They must produce their First or Second Mate's Certificates of Competency, and an authority from the Registrar-General of Seamen before they can be examined. How to apply. Ibid. Sec. 82.

† For convenience of calculation the service required is stated in a tabular form in Appendix B.

Provisional
Certificates,
First Mate.
Ibid. Sec. 83.

66. PROVISIONAL CERTIFICATES AS FIRST MATE.—Provisional Certificates as First Mate are granted to candidates who can prove that they have served five years at sea, and that during one year of this period they have served in a capacity not lower than Fourth Mate while holding a Second Mate's Certificate. They must pass the usual examination for First Mate and pay the usual fee. The provisional certificate is exchangeable for the full certificate as First Mate, without further payment or examination, on production to the Registrar-General of Seamen of satisfactory proofs that the holder has served at sea not less than 12 months in a foreign-going vessel in a capacity not lower than Fourth Mate, and that during the whole of that period he has been in regular charge of a watch and in possession of a certificate of competency as Second Mate.

Provisional
Certificates,
Master.
Ibid. Sec. 84.

67. PROVISIONAL CERTIFICATES AS MASTER.—Provisional Certificates as Master are granted to candidates who can prove not less than six and a half years' service at sea, and who pass the usual examination for Master and pay the usual fee. Of this service two and a half years must have been served in a capacity not lower than Fourth Mate of an ocean-going steamship, during the last 12 months of which the candidate must have been in possession of a full certificate as First Mate. These certificates will be exchanged for the full certificate as Master without further payment or examination, on production to the Registrar-General of Seamen of satisfactory proofs that the holder has served at sea not less than two and a half years in a foreign-going vessel in charge of a watch in a capacity not lower than Fourth Mate, and that during 12 months of this period he has served as Second Mate while in possession of a full certificate of competency as First Mate.

Voluntary Examination in Compass Deviation.

Compass
deviation.
Ibid. Sec. 85.

68. Any person holding a certificate of any grade in the foreign or home trade or as Master of his own Pleasure Yacht, who wishes to pass a voluntary examination in compass deviation, can at any time be examined upon filling up the usual form of application, and paying to the Superintendent of the Mercantile Marine Office the fee of ten dollars. If the candidate passes the examination a note to that effect will be made upon his Certificate.

Certificates of Service.

Persons
qualified.
Ibid. Sec.
100.

69. A person who has attained the rank of Lieutenant, Sub-lieutenant, Navigating Lieutenant, or Navigating Sub-lieutenant in His Majesty's Navy, or of Lieutenant in His Majesty's Indian Marine Service, is entitled to a Certificate of Service as Master of a foreign-going ship without examination. This Certificate will not entitle the holder to go to sea as Master of a home trade passenger ship.

Form of
application.
Ibid. Sec.
101.

70. Applications for Certificates of Service must be made on a printed form, Exn. 18, to be obtained free of charge from the Registrar-General of Seamen, Tower Hill, London, E., or from the Superintendent of any Mercantile Marine Office.

How to
apply.
Ibid. Sec.
102.

71. Applications for Certificates of Service by Officers of the Royal Navy on the Active List must be made through their Commanding Officers, and applications from Officers who have retired from the Royal Navy or who are on half-pay must be made to the Secretary of the Admiralty, who in either case will forward the application to the Board of Trade.

CHAPTER III.

Rules for Estimating Sea Service.

Sea service.
Ibid. Sec.
104.

72. In these Regulations sea service is reckoned from the commencement to the termination of the voyage. The certificates of discharge for service in the foreign trade will generally be accepted as proof of sea service, but certificates of discharge for service in the home or coasting trade will require additional verification. Superintendents and examiners will be careful to see that these discharges have not been in any way tampered with, and will report any suspicious cases to the Registrar-General of Seamen.

73. For Foreign-going Certificates the term "sea service" means, unless otherwise stated, service performed in foreign-going vessels.

Sea service
for Foreign-
going Certi-
ficates.
Ibid. Sec.
105.

74. For River Steamer Certificates service in the home or coasting trade is regarded as equivalent to service in the foreign trade, but for Foreign-going Certificates it is regarded as only equivalent to two-thirds of the time served in foreign trade.

Service in
Home Trade.
Ibid. Sec.
106.

75. By the word "Certificate" is meant a Certificate of Competency granted by the Board of Trade under the Merchant Shipping Act or by the Government of a British Possession under an Order in Council issued in pursuance of the Merchant Shipping Act.

Certificate,
meaning of.
Ibid. Sec.
107.

A list of the Colonial Certificates referred to will be found in Appendix C. They are of the same force as the corresponding Certificates granted by the Board of Trade.

76. The holder of a Colonial Certificate for foreign-going ships not granted under the Merchant Shipping Act who desires to be examined for an Imperial Certificate of the same grade, must prove that he has performed the amount of service required by these Regulations to entitle him to hold such a Certificate. He must also produce satisfactory testimonials as to character for at least the 12 months immediately preceding his application to be examined.

Colonial
Local
Certificates.
Ibid. Sec.
108.

77. Where a Foreign-going Certificate is required in order to qualify a Candidate for examination, the Certificate may either be an Ordinary Certificate, or a Certificate for fore and aft rigged vessels, or a Certificate for foreign-going steamships.

Foreign-
going
Certificates.
Ibid. Sec.
109.

78. The term "Pilot" in these Regulations means a pilot who is employed in general pilotage, and holds a First Class Pilot's Certificate from some competent authority authorising him to pilot vessels outside harbour and partially smooth water limits.

Pilot defined.
Ibid. Sec.
110.

79. Officer's service, to be recognised as qualifying for purposes of examination, must be performed with the requisite Certificate as specified in Appendix B. The Officer's service performed by men who have been duly promoted during the course of a voyage (*see* para. 83) or who in consequence of serving in vessels plying between ports abroad have been unable to obtain the necessary Certificates, may, however, be recognised, provided it is in other respects satisfactory.

Officer's
service.
Ibid. Sec.
111.

80. Foreign Officers who wish to apply for British Certificates of Competency must in all cases have performed their qualifying Officer's service with the requisite British Certificates. The service may have been performed in foreign vessels if the Candidate can produce satisfactory testimonials as to conduct and character, and is able to prove that the service has been in the required capacities, and that during the period of service he has held a British Certificate of Competency of the rank required by the Regulations (*see* para. 85).

Foreign
Officers.
Ibid. Sec.
112.

81. When service in charge of a watch in either the foreign or home trade is specified in the Regulations, the Candidate will have to prove that during the whole of the time claimed he had the *regular* charge of a watch or watches, which, if in the foreign trade, must amount to not less than 8 hours in each 24 hours of service. It must be distinctly understood that occasional service in charge of a watch will not be accepted as Mate's service under the Regulations. Great care must be exercised by the examiners and others in regard to such service, and unless a Candidate produces a clear and satisfactory Certificate, specially setting forth the above facts, from the Master or Owner of the vessel in which the service was performed, it must not be accepted.

In charge of
a watch.
Ibid. Sec.
113.

82. Service as additional First or Second Mates, in large foreign-going vessels, when, in both cases, Third and Fourth Mates are also carried, will count as First Mate's or Second Mate's service, as the case may be, provided that the Candidate was entered on the Articles in one of these capacities, and that he produces the necessary Certificate (*see* para. 81) showing that he was in charge of a watch or watches during the whole time claimed.

Additional
Mates.
Ibid. Sec.
114.

Promotion during voyage. Ibid. Sec. 115.

83. Whenever a man has, from any cause, been regularly promoted on the occurrence of a vacancy in the course of the voyage from the rank in which he first shipped, and such promotion, with the grounds on which it has been made, is properly entered in the Articles and the Official Log Book, he will receive credit for his service in the higher grade for the period subsequent to his promotion.

Officer's service Home or River Trade. Ibid. Sec. 116.

84. Service in a lower grade than First or Only Mate in the home or coasting trade will not be recognised as Officer's service towards qualifying a Candidate for examination for a Foreign Trade Certificate.

Evidence as to service in foreign vessels Ibid. Sec. 117.

85. The testimonials of service of foreigners and of British Officers and seamen serving in foreign vessels, which cannot be verified, must be confirmed either by the Consul of the country to which the ship in which the Candidate served belonged or by some other recognised official authority of that country, or by the testimony of some credible person on the spot having personal knowledge of the facts required to be established. The production, however, of such proofs will not of necessity be deemed sufficient. Each case will be decided on its own merits, and if the sufficiency of the proof given appears to be at all doubtful, it will be referred to the Governor.

Auxiliary screw ships. Ibid. Sec. 118.

86. Service in auxiliary screw whaling ships and in vessels with auxiliary steam power, which use their screws only in calms or during light winds, is considered as service performed in sailing ships.

Excursion steamers. Ibid. Sec. 119.

87. In the case of excursion steamers only such service as can be proved to have been performed at sea will be accepted.

Service as carpenter, sailmaker, cook, steward, &c. Ibid. Sec. 120.

88. Candidates whose service has been performed in capacities other than apprentice, midshipman, cadet, ordinary seamen, or able seaman—*e.g.*, men who have served as carpenter, or sailmaker, or as cook in small vessels where cooking is only a part of a man's duty—will be required to satisfy the Harbour Master that they have during the whole time claimed performed deck duties in addition to their own particular work, and they have a good knowledge of seamanship. These facts may possibly be proved by the production of satisfactory certificates from the Masters with whom the applicants have served; but such service will only be accepted as equivalent to two-thirds of the time served as ordinary deck hand. Failing satisfactory evidence, the applicant will be required to perform additional service in the capacity of seaman. Service as cook (under other conditions than the above) or as steward, or as purser, will not be accepted.

Service in fishing or pilot vessels. Ibid. Sec. 121.

89. Service performed exclusively in trawlers and other deep-sea fishing vessels, or in pilot vessels, will not qualify a Candidate for examination. He must in addition prove the following service:—

(a.) For a foreign-going Certificate, service for at least 18 months in an ordinary trading vessel in the foreign trade, or the equivalent period, 27 months, in the home or coasting trade.

Service in yachts. Ibid. Sec. 122.

90. Service in pleasure yachts will be accepted as qualifying service under the following conditions:—

(a.) It must in all cases be verified by satisfactory proofs, which must set forth clearly and in detail the nature and duration of the service claimed; and it must be distinctly understood that only actual sea service will be accepted, service in harbour or in port is inadmissible.

(b.) Service in foreign-going yachts will be accepted in full; and service performed within home trade limits in sailing yachts of not less than 50 tons net register or in steam yachts of not less than 80 tons gross register will be accepted in the proportion stated in para. 63; but Candidates must also show:—(i) For a Foreign-going Certificate, service for at least 18 months in an ordinary trading vessel in the foreign trade, or for the equivalent period, 27 months, in an ordinary vessel in the home or coasting trade; (ii) For a Home Trade Passenger Ship Certificate, service for at least 12 months in an ordinary trading vessel in the foreign, home, or coasting trade.

(c.) Service within home trade limits in sailing yachts of 20 tons net register, or in steam yachts of 40 tons gross register, will be accepted towards qualifying a Candidate for a Foreign-going Certificate as equivalent to half the same time served in the foreign trade, but no amount of such service shall count as more than two years' service in the foreign trade, and no such service shall count as Officer's service to qualify Candidates for Foreign-going Certificates.

(d.) Service within home trade limits in sailing yachts of not less than 20 tons net register, or in steam yachts of not less than 40 tons gross register, will be accepted at the ordinary rate as qualifying service for home trade passenger ship Certificates, but Candidates must prove that they have in addition served for at least 12 months in an ordinary trading vessel in the foreign, home, or coasting trade.

(e.) Service within home trade limits in sailing yachts of less than 20 tons net register, or in steam yachts of less than 40 tons gross register, will not be accepted as qualifying service for any class of Certificate.

91. Service in lightships or in an engine room will not be accepted as sea service.

Service in lightships or engine room. Ibid. Sec. 125.

92. Service performed on rivers, no matter of what size, and service performed within smooth or partially smooth water limits will not be accepted.

Service on Rivers. Ibid. Sec. 126.

Where any doubt whatever exists on this point, the Candidate will be required to produce a certificate from the Master or Owner of the vessel in which the service was performed, before the service can be accepted.

93. Half the time served on board a training ship will be allowed to count as service at sea up to a limit of one year, (*i.e.*, no length of service will be allowed to count as more than one year at sea), provided that the Candidate can produce a certificate from the Committee that he has conducted himself creditably, and passed a good examination in seamanship, so far as it is practised in the training ship, as well as in other matters down to the time of his leaving the ship, but this service will not be regarded as equivalent to service in square-rigged vessels.

Service in training ships. Ibid. Sec. 127.

94. The whole of the time claimed under indentures of apprenticeship will be accepted as actual sea service to qualify under para. 31 for a Second Mate's Certificate, provided (*a*) that the indentures have not been cancelled through some fault of the Candidate, but are endorsed by the Owner or Master to whom he was bound to the effect that he has performed his service faithfully during the time he remained as apprentice; and (*b*) that the Candidate has served at sea four-fifths of the time claimed, that is to say, has not spent more than one-fifth of the time in home ports.

Apprentices. Ibid. Sec. 128.

In cases where an apprentice is qualified for examination before the expiration of his indentures, *e.g.*, where he has had training ship or other sea service prior to being bound, which, together with his actual time as apprentice, makes up the required four years, or where his indentures are for a period of more than four years, a letter from the Owner or Master will be accepted instead of the endorsement referred to above.

In the event of the Candidate being short of the required four-fifths of the time claimed as apprentice out of the United Kingdom, he will be required to show sufficient additional sea service, either as seaman or junior officer, to make up the four-fifths of the time claimed.

95. The whole of the time served as midshipman or cadet under indentures will also be accepted subject to the *same* conditions as those laid down for apprentices; and the same will be the case even when not bound by indentures, provided that the service as midshipman or cadet has been continuous, and that on the date of the termination of the period of service claimed in this capacity the Candidate was on Articles of Agreement, and that he is able to comply with the requirements laid down in the matter of serving or making up the four-fifths period at sea during the time claimed.

Midshipmen and Cadets. Ibid. Sec. 129.

Lighthouse
Tenders.
Ibid. Sec.
130.

96. Service performed in the sea-going steam vessels of the Trinity House, of the Commissioners of Northern Lighthouses, or the Commissioners of Irish Lights, or in Irish or Scotch Fishery Cruisers will be accepted as sea service for the purpose of qualifying a Candidate for examination for a River Passenger Ship Certificate; but for Foreign-going Certificates Candidates must show in addition to this service calculated in accordance with para. 74 at least 12 months in an ordinary trading vessel. In order to qualify a Candidate for an Ordinary Certificate, this 12 months must have been performed in a square-rigged vessel. (See para. 74).

Service in
Royal Navy
Ibid. Sec.
131.

97. Officers of the Royal Navy are at liberty to apply for Certificates of Service and to be examined for Certificates of Competency in the Mercantile Marine, but the Lords Commissioners of the Admiralty have directed that the applications of Officers on the Active List should be made through their Commanding Officers, and that the applications of Officers on half-pay should be made to the Secretary of the Admiralty who, in either case will forward the application to the Board of Trade.

The conditions on which Certificates of Service are issued are stated at paras. 58 to 60.

Qualifica-
tions
required of
Naval and
Indian
Marine
Officers.
Ibid. Sec.
132.

98. Officers of the Royal Navy or of the Royal Indian Marine who wish to be examined for Certificates of Competency in the Mercantile Marine will be required to prove the following service; and if an Officer wishes to obtain the Ordinary Certificate for foreign-going ships he must prove that at least twelve months of this required period was served under sail alone:—

(i.) *For Second Mate.*—The Officer must prove 4 years' service at sea or that he has attained the rank of Acting Sub-lieutenant.

(ii.) *For Only Mate.*—Five years' service at sea.

(iii.) *For First Mate or Master.*—The Officer must prove that he has attained the rank of Sub-lieutenant in the Royal Navy, or of Lieutenant in the Royal Indian Marine.

Service in
Royal Naval
Reserve.
Ibid. Sec.
133.

99. Lieutenants, Sub-lieutenants, and Acting Sub-lieutenants of the Royal Naval Reserve who perform sea service on board His Majesty's ships will be allowed to count such service as if it had been performed in foreign-going merchant ships, and the service will rank according to the Certificate of Competency held by the Candidate at the time.

Midshipmen of the Royal Naval Reserve, possessing a First Mate's Certificate, and temporarily granted the rank of Acting Sub-lieutenant whilst undergoing twelve months' training afloat in the Royal Navy, will only be allowed to count such service as if it had been performed in the capacity of Second Mate of a foreign-going merchant ship with a First Mate's Certificate.

Service in
drill and
harbour
ships.
Ibid. Sec.
134.

100. The time spent in drill in the Royal Naval Reserve on board sea-going vessels of the Royal Navy, if accompanied by a good report, will be accepted in full; but if the drill has been performed in Harbour ships of the Royal or Colonial Navies, only half such time will be accepted as sea service and no such service must amount to more than one-fourth of the time required for the particular grade of Certificate applied for.

CHAPTER IV.

Conduct of the Examinations.

Commence-
ment and
duration of
examina-
tions.
Ibid. Sec.
135.

101. The examinations will commence early in the forenoon, and will be continued from day to day until all the Candidates whose names appear upon the Superintendent's list on the day of examination are examined.

Candidates
to be
punctual.
Ibid. Sec.
136.

102. Candidates are required to appear at the examination room punctually at the time appointed.

Loose paper
and books
removed.
Ibid. Sec.
137.

103. Before commencing the examination, the tables or desks must be cleared of all scraps of paper or books that are not used in the examination, and care should be taken that the Candidates do not bring into the examination room any book or paper.

104. No person will be allowed in the room during the examination, other than those whose duties require them to be present. No instructors will be allowed on the premises.

No strangers admitted. Ibid. Sec. 138.

105. Candidates are prohibited from bringing into the examination room books or papers of any kind whatever. The slightest infringement of this regulation will subject the offender to all the penalties of a failure, and he will not be allowed to present himself for re-examination for a period of three months.

Books and papers strictly forbidden. Ibid. Sec. 139.

106. No Candidate will be allowed to work out his problems on a slate or on waste paper, or to write on the blotting paper supplied for his use in the examination. Violation of this rule will subject the Candidate to all the penalties of a failure.

All work to be shown. Ibid. Sec. 140.

A sheet of blotting paper should be issued to each Candidate with the first examination paper, and it must be returned to the examiner when the last paper is completed each day. The examiner will be careful to see that the blotting paper has not been used by the Candidate in solving his problems, or for conveying information to other Candidates.

107. All instruments necessary for use in the examinations are supplied by the Harbour Master.

Instruments are provided. Ibid. Sec. 141.

108. No Candidate may leave the examination room without permission and without giving up the paper on which he is engaged. Under no circumstances will a Candidate be allowed to leave the building while the examination is proceeding. Violation of this rule will subject the Candidate to all the penalties of a failure.

Leaving room or building. Ibid. Sec. 142.

109. Candidates should be so placed as to prevent one copying from the other, and no communication whatever between the Candidates should be allowed.

Copying, &c., to be prevented. Ibid. Sec. 143.

110. In the event of any Candidate being discovered referring to any book or paper, or copying from another, or affording any assistance or giving any information to another, or communicating in any way with another, during the time of examination, or copying any part of the problems for the purpose of taking them out of the examination rooms, he will subject himself to all the penalties of a failure, and will not be allowed to be examined for a period of six months.

Penalty for copying, &c. Ibid. Sec. 144.

111. If a Candidate defaces, blots, writes in, or otherwise injures any book or form belonging to the Board, his papers will be retained until he has replaced the damaged book or document. He will not be allowed to remove the damaged book or document, and will be subjected to all the penalties of a failure.

Injury to books. Ibid. Sec. 145.

112. Perfect silence is to be preserved in the examination room.

Silence. Ibid. Sec. 146.

113. Any Candidate violating any of the regulations, or being guilty of insolence to the examiner, or of disorderly or improper conduct in or about the room, will render himself liable to the postponement of his examination, or, if he has passed, to the detention of his Certificate for such period as the Governor may direct.

Penalty for breach of rules. Ibid. Sec. 147.

114. The examination papers should be issued to the Candidates in half sheets only and one at a time. This will prevent a Candidate from spreading out the sheets on the table so as to enable his neighbour to look over the problems. It will also enable the examiner to look over and report upon the work on one half sheet, while the Candidate is at work upon another. When the errors are not too numerous, the incorrect problems may be returned to the Candidate for correction, but in no case should the errors be pointed out by the examiner, neither should any marks be made which would indicate how far or to what extent the work is incorrect. The incorrect problems are not to be returned to the Candidate for correction a second time, and should more than one of the problems—or two if the errors are only slight—be still incorrect, this would involve a failure. It must be understood, however, that the day's work, latitude by meridian and ex-meridian altitude of sun and star, chronometer problem by sun and star, and the Sumner problem, must always be correct.

Papers to be issued singly. Ibid. Sec. 149.

Extra hour
allowed in
certain cases.
Ibid. Sec.
150.

115. At those ports where, from the large number of Candidates, it may sometimes be found impossible to look over the work on the day of examination during the office hours, an hour in the morning of the following day may be allotted for the purpose of correcting the problems, but in no case should a Candidate have his problem returned to him for correction after he has made the second attempt.

Dictation.
Ibid. Sec.
152.

116. The examination will commence with not less than a quarter of an hour's dictation to test handwriting and spelling. This, however, is only to be given to those Candidates who present themselves for examination for the first time for a Foreign-going Certificate. The spelling must be reasonably and fairly good, and the writing clear and legible. The spelling and writing of all Candidates must be satisfactory, and in cases where there is any doubt about the ability of a Candidate to spell correctly he will be specially tested by dictation.

Definitions.
Ibid. Sec.
153.

117. The paper of definitions is only for those Candidates who present themselves for examination for the first time for a Foreign-going Certificate. In using this paper, the examiner will place a mark against the questions which he wishes to be answered, not less than ten questions being so selected. The Candidate will then write against the questions so marked his definition of the terms in a clear and legible hand, so as to prevent the possibility of any letter being mistaken, and also draw a rough sketch or diagram opposite to each of the questions to which he has given written answers, in further illustration of its meaning. *Viva voce* questions will be asked on the answers given.

Compass
deviation.
Ibid. Sec.
154.

118. In the questions on the Deviation of the Compass the examiner will mark at least twelve of the questions, including the problems. The selected questions will be varied frequently, and no two Candidates will have precisely the same questions. The Candidate will be furnished with sheets of the blank ruled paper which is supplied for the purpose, with instructions that he is to write only on one side of the paper, and to answer in a clear and legible hand each of the questions against which a mark is placed, and to commence each answer by writing down the number of the question to which it relates in the margin. In answering Question 39 on the tentative method of compass adjustment, the Candidate will be tested by Beall's Compass Deviascope, and it will not therefore be necessary for him to give the written answer and sketches.

Barometer,
tides, &c.
Ibid. Sec.
155.

119. The examination on the barometer, thermometer, and hydro-meteor, prevailing winds and currents of the globe, trade routes, and tides, will for the present be conducted orally, and the questions asked by the examiner, will be constantly varied. Candidates will be required to have a fair and intelligent knowledge of the subjects.

Adjustments
of sextant.
Ibid. Sec.
156.

120. Particular attention should be paid to the adjustments of the sextant, the examination in which subject will be conducted orally and practically. Every Candidate will be examined practically as to his knowledge of the adjustments and the use of the various screws; he must be able to read correctly off the arc, a supposed index error being given by the examiner as additive, as well as reading on the arc in the usual way; he must also be able to find the index error both by the horizon and by the sun.

Corrections.
Ibid. Sec.
157.

121. Candidates will find it more convenient, both during the examination and at sea, to correct the declination and other elements from the Nautical Almanac by the hourly differences given in that work; they will thereby render themselves independent of any proportional or logarithmic table for that purpose.

Corrections
by tables.
Ibid. Sec.
158.

122. The corrections by inspection of tables given in some of the works on Navigation, *e.g.*, Tables IX., XI., and XXI. in Norie's Epitome, will not be allowed; every correction must appear on the papers of the Candidates.

Minor cor-
rections to
be shown.
Ibid. Sec.
159.

123. All outstanding or minor corrections should appear in the margin of each problem paper and on the chart papers, and the papers of the Candidate will not be considered complete without these corrections.

Problems
are tests.
Ibid. Sec.
161.

124. Examiners should bear in mind that the problems to be solved are required as tests, and for the purposes of an examination, and not for sea-going or practical purposes alone.

125. Candidates will be allowed to work out the various problems according to the method and the tables they have been accustomed to use.

Candidates may use own method.
Ibid. Sec. 162.

126. All the problems given in the examinations, for the Ordinary Certificates, will be constantly varied; and the mode of stating the times in the astronomical problems, and the mode of wording and setting these and all other problems will be varied in every possible way, so as to ensure that the Candidate has a proper knowledge of the subject.

Problems to be varied.
Ibid. Sec. 163.

127. Candidates are expected not only to give correct written answers to the questions set in the papers but also to possess an intelligent knowledge of the various subjects prescribed in the regulations. The examiner will therefore put a few *vivâ voce* questions to the Candidate as the papers are brought up for inspection or during the course of the examination. The questions, which will be based on the papers set, will be such that the examiner may satisfy himself that the Candidate possesses a real knowledge of what he has written.

Supplementary *vivâ voce*.
Ibid. Sec. 164.

Time Allowed.

128. Candidates for Second Mates' Ordinary Certificates must complete the whole of the examination in Navigation in nine hours, including the time allowed for writing the definitions on Form Exn. 4a., the paper on the chart, and the correction of all errors and oversights; but the quarter of an hour's dictation and all the nautical problems, excepting the chart paper, must be completed within six hours, and without the Candidates leaving the premises during that period.

Second Mates.
Ibid. Sec. 167.

129. Candidates for Only and First Mates' Ordinary Certificates must complete the whole of the examination in Navigation in twelve hours, † including the time allowed for the papers on the chart; cyclones or revolving storms; and for the correction of all errors and oversights; but the nautical problems up to and including (*k*) of the syllabus, prescribed for Only and First Mate, must be completed within six hours, and without the Candidates leaving the premises during that period.

Only and First Mates.
Ibid. Sec. 168.

130. Candidates for Ordinary Certificates as Master must complete the whole of the examination in Navigation in fifteen hours including the time allowed for the papers on the chart; compass deviation; cyclones or revolving storms; and for the correction of all errors and oversight; but the problems given, up to and including (*k*) of the syllabus prescribed for Only and First Mate, must be completed within six hours, and without the Candidates leaving the premises during that period.

Masters, Ordinary.
Ibid. Sec. 169.

131. Candidates for Certificates for foreign-going steamships will be allowed the same amount of time to complete their navigation work as is allowed in the case of Ordinary Certificates.

Time allowed :
Steamship Certificates.
Ibid. Sec. 170.

132. Punctually at the expiration of the prescribed time all papers will be collected whether completed or not. If the papers are not completed, the Candidate will be declared to have failed, unless the Harbour Master should see fit to lengthen the period in any special case.

Papers to be collected punctually.
Ibid. Sec. 175.

133. The periods prescribed in the foregoing paragraphs are not intended to include the time occupied by the *vivâ voce* part of the examination.

Vivâ voce time extra.
Ibid. Sec. 176.

134. In the *vivâ voce* examination a reasonable time should be allowed for the Candidate to give his answers. No assistance should be given or leading question put.

Vivâ voce time allowed
Ibid. Sec. 177.

† A Candidate who is not applying for a Second Mate's Certificate and who has not previously passed an examination may be allowed the time allotted to dictation and writing the definitions on form Exn. 4a. in addition to the above.

Time
allowed for
Navigation.
Ibid. Sec.
178.

135. It is anticipated that few Candidates will require the whole of the time allowed for completing the examination in navigation, but ample time has been given, so that Candidates may perform their work in a careful, clear, and legible manner, and to the entire satisfaction of the examiners.

Order of
work.
Ibid. Sec.
179.

136. Candidates, after finishing the problems required in the various grades on the first day of examination, should proceed, until the end of that day, with such subject as the definitions, chart, questions relating to cyclones, and compass deviation.

Sumner
problem.
Ibid. Sec.
180.

137. The Sumner problem (Exn. 6 c.) must on no account be given out to any of the Candidates on the first day of the examination, but should form the commencement of the Candidates' work on the second day. On completion of this problem the Candidates for Masters' Certificates should proceed with the problems (a.), (b.), (c.) of the syllabus for that grade.

Degree of
precision
required.
Ibid. Sec.
160.

138. Degree of precision required in the solution of the problems:—

- (a.) Candidates are expected to work out their answers to all problems where the answer required is a latitude, longitude or distance within $1\frac{1}{2}'$ of position from a correct result; in finding the ship's position by Sumner's method a margin of $2\frac{1}{2}'$ will be allowed.
- (b.) In such problems as the "Amplitude" and "Alt-Azimuth", where the bearing, deviations, &c., only are required, a margin of 3' or 4' from a correct result will be sufficiently accurate.
- (c.) Candidates for Ordinary Certificates are not required to correct for *second differences* in taking out the quantities from the Nautical Almanac.
- (d.) In solving the Time Azimuth problems an answer not exceeding half a degree from the exact result will be sufficiently near. But in all cases the actual latitude, declination, and time used, together with the exact bearing from the North or South as given in the tables, must be clearly shown by the Candidate on his papers.
- (e.) In computing the time at which a given star will be on the observer's meridian, and the name of the stars near the meridian (sections (b.) and (c.) of paragraph 36), an approximation only is required, and it will be sufficiently precise if the Candidate works throughout with the nearest minute of time. In computing the approximate meridian altitude of a star (section g.) working throughout with the nearest minute of arc will also be sufficiently close.
- (f.) In interpolating for the correct deviation to be applied in solving the chart question, it will usually be sufficient if the Candidate works throughout with the nearest degree of deviation taken from the deviation card; and even in cases where the deviations may vary but little, the nearest half degree used throughout will be sufficiently precise. It is not necessary that the Candidate should waste his time in solving the course to odd minutes, as is sometimes done.
- (g.) In calculating the correction to apply to soundings the Candidate is not required to work to the exact inch, as is sometimes done. It will be sufficient if he brings his answer within half a foot or so of a precise result.

* * * *

It must be clearly understood in reading the foregoing instructions as to the precision required, that they only apply when the work of the Candidate is correct in principle.

No Can-
didate to be
examined
twice in a
week.
Ibid. Sec.
166.

139. A Candidate will not be allowed to undergo examination twice in the same week, unless, under very special and urgent circumstances the Harbour Master should see fit to relax this rule.

APPENDIX A.

TEXT-BOOKS to be used in the examinations:—

- For Barometer, Thermometer and Hydrometer.—“A Barometer
 “Manual for the use of Seamen; with an appendix on the
 “Thermometer, Hygrometer, and Hydrometer,” issued by
 the authority of the Meteorological Council, and to be
 purchased, either directly or through any bookseller, from
 Eyre and Spottiswoode, East Harding Street, Fleet Street,
 E.C.; or Oliver and Boyd, Edinburgh; or Edward Ponsonby,
 116, Grafton Street, Dublin. Price Three-pence. Text Book.
Ibid.
Appendix R.
B/T Regula-
tions.
- For Prevailing Winds and Currents of the Globe.—“The
 “Principal Winds and Currents of the Globe, &c.,”
 compiled from the various Admiralty Sailing Directions,
 Weather Charts, &c., by Captain Robert Jackson, R.N., and
 to be purchased, either directly or through any bookseller,
 from Simpkin, Marshall and Company, Paternoster Row,
 London; or Henry Lewis, 114, High Street, Portsmouth.
 Price One Shilling.
- For Trade Routes.—“Ocean Passages,” compiled from the
 various Admiralty Sailing Directions by Captain Robert
 Jackson, R.N., and to be purchased, either directly or
 through any bookseller, from Simpkin, Marshall and
 Company, Paternoster Row, London; or Henry Lewis,
 114, High Street, Portsmouth. Price One Shilling.
- For Tides.—“Tide Tables for the British and Irish Ports,”
 published annually by the Admiralty, and to be purchased,
 either directly or through any bookseller, from J. D.
 Potter, 31, Poultry, E.C., and 11, King Street, Tower Hill,
 E.C. Price Two Shillings.

Intending Candidates are advised to procure a copy of these books to take to sea with them, so that they may study them during their leisure hours.

Instruments.—The Barometer (Kew pattern Marine Barometer), Thermometer, and Hydrometer used in the examinations, will be precisely similar to those supplied to shipmasters by the Meteorological Office for making observations on board ship.

APPENDIX B.

TABLE showing the REQUIREMENTS as to SEA SERVICE necessary to QUALIFY for EXAMINATION for CERTIFICATES OF COMPETENCY.

NOTE.

A Candidate for an Ordinary Certificate of any grade who has not previously held an Ordinary Certificate of a lower grade, must prove that he has served twelve months in the foreign trade or eighteen months in the home or coasting trade in a square-rigged sailing vessel. Service in
square-
rigged
sailing
vessels.

Where Foreign-going Certificates are required to be held to qualify Candidates for examination, they may be either the Ordinary Certificates, or those for fore and aft rigged vessels or for foreign-going steamships. Nature of
Certificates.

| Rank. | Minimum Age. | Total Sea Service (Years). | Officer's Service in Merchant Vessels. | | |
|--|--------------|----------------------------|--|--|---|
| | | | Years. | Lowest Capacity. | Lowest certificate required. |
| ORDINARY CERTIFICATES FOR FOREIGN-GOING SHIPS. | | | | | |
| 2nd Mate | 17 | 4 | — | No officer's service required. | None. |
| Only Mate,... | 19 | 5 | — | No officer's service required. | None. |
| 1st Mate, | 19 | 5 | 1 | 3rd or 4th Mate in foreign trade <i>in charge of watch.</i> | 2nd Mate foreign-going. |
| | | | 1½ | Only Mate in home or coasting trade. | 2nd Mate foreign-going, or home trade Mate. |
| Master. | 21 | 6 | 1 | Pilot with 1st Class pilot's certificate. | None. |
| | | | 1 | Only Mate in foreign trade. | Only Mate foreign-going. |
| | | | 1½ | Only Mate in home or coasting trade. | Only Mate foreign-going. |
| | | | | <i>And in addition, unless the above service was performed with a First Mate's Foreign-going certificate, he will also be required to prove one of the following services prescribed for that grade.</i> | |
| | | | 1 | 3rd or 4th Mate in foreign trade <i>in charge of watch.</i> | 2nd Mate foreign-going. |
| | | | 1½ | Only Mate in home or coasting trade. | 2nd Mate foreign-going, or home trade Mate. |
| | | | 1 | Pilot with 1st Class pilot's certificate. | None. |
| | | | | OR HE MUST HAVE SERVED | |
| | | 6½ | 1 | 2nd Mate in foreign trade. <i>(Provided that if this service as 2nd Mate was performed under an Additional or Auxiliary 1st Mate it will only be accepted if a 3rd and 4th Mate were also carried.)</i> | 1st Mate foreign-going. |
| | | | 1½ | 3rd or 4th Mate in foreign trade <i>in charge of watch.</i> | 2nd Mate foreign-going. |
| | | | | OR HE MUST HAVE SERVED | |
| | | | 9 † | 3 | Master in home or coasting trade. |
| | | | | Or | |
| | | | 1 | Master in home or coasting trade. | Do. |
| | | 3 | Mate in home or coasting trade. | | |

† If all the service was in home or coasting trade.

| Rank. | Minimum Age. | Total Sea Service (Years). | Officer's Service in Merchant Vessels. | | |
|-------|--------------|----------------------------|--|------------------|------------------------------|
| | | | Years. | Lowest Capacity. | Lowest certificate required. |

CERTIFICATES FOR FOREIGN-GOING FORE AND AFT RIGGED VESSELS.

2nd Mate, ...
 Only Mate, ...
 1st Mate,
 Master,
) Same as for ordinary certificates; except that no service in *square-rigged sailing vessels* is required.

CERTIFICATES FOR FOREIGN-GOING STEAMSHIPS.

2nd Mate, ...
 Only Mate, ...
 1st Mate,
 Master,
 Extra Mas-
 ter,
) Same as for foreign-going ships; except that the service as officer must have been performed in a steamship and that no service in square-rigged sailing vessels is required.

CERTIFICATES FOR RIVER STEAMERS.

| | | | | | |
|---------------|----|---|---|--|--|
| Mate, | 19 | 4 | — | No officer's service required. | None. |
| Master, | 20 | 5 | 1 | Only Mate. | Mate home trade or 2nd Mate foreign-going. |
| | | | | Or | |
| | | | | 2½ | 2nd Mate <i>in charge of watch</i> . |
| | | | 1 | As pilot with 1st Class pilot's certificate. | None. |

APPENDIX C.

LIST OF COLONIAL CERTIFICATES ISSUED UNDER ORDER IN COUNCIL, which are of the same force as those granted by the BOARD OF TRADE.

| Colony. | Certificates. | | Date of original Order in Council. | Date from which Order in Council takes effect. |
|------------------------|---|---|------------------------------------|--|
| | By whom granted in Colony. | Description. | | |
| Victoria | * Marine Board | Master ; 1st Mate ; Only Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 30 Mar., 1871. | 4 Jan., 1870. |
| Canada | The Minister of Marine and Fisheries. | Master ; Mate † | 19 Aug., 1871. | 19 Aug., 1871. |
| | | 1st Class Engineer ; 2nd Class Engineer. | 10 Nov., 1886. | 1 Jan., 1887. |
| New Zealand... | Governor | Master ; 1st Mate ; Only Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 9 Aug., 1872. | 1 May, 1872. |
| New South Wales. | ‡ Department of Navigation. | Master ; 1st Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 30 Aug., 1873. | 18 June, 1872. |
| Malta | The Head of the Government. | Master ; 1st Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 12 May, 1874. | 12 May, 1874. |
| South Australia | Marine Board | Master ; 1st Mate ; Only Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 12 May, 1874. | 12 May, 1874. |
| Tasmania | Board of Examiners under authority of the Governor. | Master ; 1st Mate ; Only Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 12 Feb., 1876. | 1 April, 1876. |
| Bengal | Lieutenant-Governor | Master ; 1st Mate ; Only Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 27 June, 1876. | 27 June, 1876. |
| § Newfoundland .. | Governor | Master ; 1st Mate ; Only Mate ; 2nd Mate. | 14 May, 1877. | 14 May, 1877. |
| Bombay | Governor | Master ; 1st Mate ; Only Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 11 July, 1877. | 11 July, 1877. |
| Queensland ... | Marine Board | Master ; 1st Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 26 Mar., 1878. | 1 Oct., 1877. |
| Hongkong | Governor | Master ; 1st Mate ; Only Mate ; 2nd Mate ; 1st Class Engineer ; 2nd Class Engineer. | 31 Dec., 1883. | 1 Jan., 1884. |
| Straits Settlements... | Governor | Master ; 1st Mate ; 2nd Mate. 1st Class Engineer ; 2nd Class Engineer. | 1 May, 1890. | 1 June, 1890. 1 Aug., 1888. |
| § Mauritius ... | Governor | Master ; 1st Mate ; 2nd Mate..... | 22 Nov., 1890. | 1 Jan., 1891. |

* The Steam Navigation Board was superseded by the Marine Board on the 21st December, 1888. See Order in Council of 23rd November, 1893.

† Equivalent to First Mate.

‡ The Marine Board was superseded by the Department of Navigation on the 17th March, 1900. See Navigation Amendment Act, 1899.

§ Newfoundland and Mauritius do not issue Engineer Certificates under their Orders in Council.

C. CLEMENTI,
Clerk of Councils.

COUNCIL CHAMBER,
7th February, 1910.