

MINISTRY OF SURFACE AND TRANSPORT (TRANSPORT WING)

New Delhi, the 18th May, 1987

NOTIFICATION

MERCHANT SHIPPING)

G.S.R. 509(E)-In exercise of the powers conferred by clauses (b), (c) and (d) of section 87 read with Section 83 of the Merchant Shipping Act, 1958 (44 of 1958) and in supersession of the Merchant Shipping (Examination for Skippers and Second Hand of a Fishing Vessel) Rules 1964, the Central Government hereby makes the following rules, namely :-

1. Short title commencement and application :-

(1) These rules may be called the Merchant Shipping (Examination of Skippers and Mate of Fishing Vessels) Rules, 1987. (2) They shall come into force six months after the date of their publication in the official Gazette subject to sub rule (3) (3) They shall apply to:- (a) any candidate who is a citizen of India: (b) any other candidate permitted to be examined under these rules by the Central Government.

2. Definitions :-

In these rules, unless the context otherwise requires :- (a) 'Act' means the Merchant Shipping Act, 1958 (44 of 1958). (b) 'Appendix' means Appendix Annexe to these rules. (c) 'Approved' means approved by the Director General of Shipping. (d) 'Chief Examiner' means the Chief Examiner of Master and Mate. (e) 'Continuous Certificate of Discharge' means a Certificate issued under Merchant shipping (continuous Discharge Certificate) Rules 1960. (f) 'Effective charge' in relation to watch-keeping service means assuming full responsibility for the watch but does not preclude occasional supervision by a senior officer. (g) 'Examiner' means the examiner appointed under section 79 of the Act. (h) 'Non-trading ship' means ship not going to any foreign country or not trading in home -trade. (i) 'Ordinary trading ship' means a foreign going or home trade ship as defined in the Act. (j) 'Qualifying Sea Service' means the service performed in the deck de [arrestment of any fishing vessel or trading ship at sea or of any sea going ship of the Indian Navy or Coast Guard while such vessel is commissioned into service including reasonable time spent in dry-dock, or while undergoing hull or deck repairs unless expressly provided otherwise. (k) 'Record of Service' means the record of service on fishing vessels as prescribed in Appendix 'A'. (l) 'Watch-keeping service' means : (i) the service on a fishing vessel during which a candidate has been in charge or, as the case may be, in effective charge of a watch for not less than eight hours out of every twenty hours of service claimed. or, (ii) the service on a fishing vessel during which a candidate has been in full charge or, as the case may be in effective charge of a watch for not less than six hours out of every twentyfour hours, if he has carried out additional routine duties in connection with fishing operations or the maintenance of the fishing vessel for not less than two hours in every twenty four hours period of service claimed and, in either case, such service shall include reasonable time spent in dry dock or while undergoing hull or deck repairs. (m) Words and expressions used in these rules but not defined shall have the meanings respectively assigned to them in the Act;

3. Grades of examination for Certificates of Competency :-

(1) Examinations in accordance with these rules shall be held for Certificates of Competency of the following grades, namely :- (i) Mate Fishing Vessel; (ii) Shipper of Fishing Vessel Grade II; (iii) Skipper of Fishing Vessel Grade I. (2) Every successful candidate shall be granted a Certificate of Competency in the form prescribed in Appendix B for the respective grades in accordance with the provisions of these rules. (3) The Certificate of Competency shall be prepared in duplicate and the original shall be issued to the successful candidate holding a letter of authority prescribed in sub rule(2) of rule 44. The duplicate shall be retained by the Chief Examiner. (4) The Chief Examiner shall maintain a register wherein the details of the Certificate of Competency issued shall be recorded Such a register shall also record any cancellation or suspension of the

Certificate of Competency made under the Act and any endorsement made thereon within the meaning of rule 46.

4. Mate of fishing vessel:-

(1) Examination for the Certificate of Competency as Mate of fishing vessel shall be held in three parts namely :- (i) Part 'A' Written (ii) Part 'B' Oral (iii) Part 'C' Signals. (2) Every candidate for this examination shall be not less than 19 years of age as on the first day of the month of the examination. (3) Subject to rules 17 and 19 every such candidate shall have three years of qualifying service of which: - (a) at least 6 months service shall have been performed on a fishing vessel of not less than 15 meters in length; and (b) at least 3 months service shall have been performed in fishing vessel in the 18 months immediately proceeding the month of examination. (4) Every such candidate shall be in possession of the following certificates :- (a) Approved Radar observer's certificate; (b) Approved First aid at Sea certificate; (c) Approved Lifeboatman's certificate; and (d) Elementary fishing technology certificate granted under Rule 7. provided that a candidate may be permitted to appear for the examination before obtaining any of the above certificates in which case the Certificate Competency or letter of authority shall not be issued until all the aforesaid certificates are produced.

5. Skipper of fishing vessel grade-II

(1) Examination for the Certificate of Competency as skipper of fishing vessel grade II shall be held in three parts, namely :- (i) Part 'A'- Written. (ii) Part 'B'- Oral. (iii) Part 'C' - Signals. (2) Every candidate for this examination shall be not less than 20-1 2 years of age on the first day of the month of the examination. (3) Subject to rules 19,23and 24 every such candidate shall have after abstaining the Certificate of Competency as Mate of Fishing vessel, at least 18 month watch keeping service on a fishing vessel of which :- (a) at least 6 months keeping service shall have been performed on a fishing vessel of not less than 15 meters in length, and (b) at least 3 months service shall have been performed on fishing vessels in the 18 months immediately preceding the month of examination. (4) Every such candidate shall be in possession of following additional certificate :- (a) Approved First aid at sea certificate. (b) Approved Life boatmen's certificate. (c) Elementary fishing technology certificate granted under rule 7. (d) Approved Certificate of proficiency in fire fighting. (e) Approved Radar Observer's certificate. (f) Advanced fishing technology certificate granted under rule 7. (g) Certificate of proficiency as Radio Telephone Operator (restrictive) granted under the Indian Wireless Telegraphy (Commercial radio Operator's certificate of proficiency and licence to operate wireless telegraphy Rules 1954. Provided that a candidate may be permitted to appear for the examination before obtaining any of the above certificates in which case the certificate of competency or Letter of authority shall not be issued until the entire aforesaid certificate are produced.

6. Skipper of fishing vessel grade- I: -

(1) Examination for the Certificate of Competency as skipper of fishing vessel grade-I shall be held in three parts, namely:- (i) Part 'A' : written (ii) Part 'B' : Oral (iii) Part 'C' : signals provided that a candidate who holds Certificate of Competency skipper of fishing vessel grade II shall be exempted from examination in practical and principles of Navigation and chart work in part 'A' and the examination in part 'C' (2) Every candidate for this examination shall be not less than 21-1 2 years of age as on the first day of the month of examination. (3) Subject to rules 19, 23 and 24 every such candidate shall have at least 30 months watch keeping service on board fishing vessels as holder of Certificate of Competency as Mate of fishing vessel, of which- (a) at least 6 months watch keeping service shall have been performed on a fishing vessel of not less that 24

metres in length, and (b) at least 3 month service shall have been performed on fishing vessels in the 18 months immediately preceding the month of examination. (4) Every such candidate shall be in possession of following additional certificate. (a) Approved First Aid at sea certificate. (b) Approved Life boatmen's certificate. (c) Elementary fishing technology certificate granted under rule 7. (d) Approved Certificate of proficiency in fire fighting. (e) Approved Radar Observer's certificate. (f) Advanced fishing technology certificate granted under rule 7. (g) Certificate of proficiency as Radio Telephone Operator (Restricted) granted under the Indian Wireless Telegraphy (commercial radio operator's certificate of proficiency and licence to operate wireless telegraphy) Rules 1954, and (h) Approved Radar simulator course certificate provided that a candidate may be permitted to appear for the examination before obtaining the above certificates in which case the certificate of competency or Letter of authority shall not be issued until all the aforesaid certificates are produced.

7.(1) Elementary Fishing Technology Certificates :-

(a) Every candidate who has performed the qualifying service wholly on fishing vessels and is eligible to appear for examination for Certificate of Competency as Mate of fishing vessel shall be granted the elementary fishing technology certificate on successful passing of an examination. If such a candidate has successfully undergone an approved pre-sea institutional training at the Central Institute of Fisheries, Nautical and Engineering Training and has passed the examination at the end of such training, he shall be deemed to have passed the examination for this certificate. (b) Every candidate who has served on ordinary trading ship and or on sea going ships of the Indian Navy or Coast Guard shall be permitted to appear for this examination after he has completed an approved course under the guidance of an approved institution. The duration of such course shall be not less than 2 months training in the institutions and not less than 4 months training on board fishing vessels. (c) The examination for this certificate shall be conducted by the Central Institute of Fisheries, Nautical and Engineering Training or other approved institutions as per syllabus prescribed in Appendix 'C'. (2) Advanced Fishing Technology Certificate :- (a) Every candidate eligible for Certificate of Competency as Skipper of fishing vessel grade II or grade I and who has wholly served on fishing vessels shall be granted the advanced fishing technology certificate on successful passing of an examination. (b) Every candidate who has served on ordinary trading ships and or on set going ships of the Indian Navy or Coastguard shall be permitted to appear for this examination after he has completed an approved course under the guidance of an approved institution. The duration of such course shall be not less than 2 months training in the institution and not less than 4 months training on board fishing vessels. (c) This examination for this certificate shall be conducted by the Central Institute of Fisheries, Nautical and Engineering Training, Cocoon (CIFNET) or such other approved institution as per syllabus prescribed in Appendix 'D'.

8. Sight Tests :-

(1) Every candidate for examination for a Certificate of Competency of any grade shall, subject to sub rule (2), pass the letter test specified in Appendix E before appearing for the examination. (2) Every candidate for examination for a Certificate of competency as Mate of fishing vessel in addition to the letter test specified in sub-rule (1), pass the appropriate lantern test specified in Appendix B, before appearing for the examination. (3) For the purposes of this rule a pass in sight test shall be valid for a period of 6 months.

9. Application forms :

(1) Any candidate satisfying the requirements of rules 4, 5 and 6 may apply for appearing for the examination for Certificate of Competency for which he is eligible in the prescribed form set out in Appendix 'F'. (2) All entries in the application form shall be filled in accurately. Particulars in respect of sea service, watch keeping service and the rank held by the candidate while performing such service as specified in the appropriate columns of the application form shall correspond with documentary proof produced in support thereof. Any discrepancy in such particulars shall render the application invalid, unless any such discrepancy or gap in sea service is explained by the candidate to the satisfaction of the Examiner. (3) The application shall be made to the Principal Officer of Mercantile Marine Department at the port of examination as early as possible and in any case not later than 10 days before the date of commencement of the examination. (4) Every such application shall clearly state the part or parts of the examinations in which the candidate wishes to appear in any particular month.

10. Documents to accompany application :-

(1) Every application shall be accompanied by Certificate of birth, testimonials complying with the requirements of these rules, record of service on fishing vessel and or continuous certificate of discharge, Certificate of competency or service, if any, additional certificates complying with the requirements of rules 4,5,6, and 7 and evidence of having passed in appropriate sight tests complying with the requirement of rule 8. Provided that in the case of a candidate who is a citizen of India, the certificate of birth or a certificate of naturalisation shall also be accepted as a certificate of nationality.

11. Testimonials :-

(1) Every candidate for examination for Certificate of Competency for any grade shall produce the certificate specified in sub-rule (2) duly signed and attested. The certificate shall comment on the conduct, including sobriety, ability and experience of the candidate as assessed by the Master or the Skipper on the basis of the candidate's performance onboard a fishing vessel for full period of the qualifying sea service, or as the case may be, watch keeping service. In the case of watch keeping service such certificates shall be in the prescribed form as set out in Appendix "D" stating in addition the exact nature of service and rank on board for the period to which the certificate relates. (2) Testimonials for any such service shall when performed on an Indian ship or fishing vessels be signed by the Master or the Skipper, provided where the Skippers on a fishing vessel are employed on a voyage basis, the certificate with respect to conduct, sobriety, ability and experience shall be recorded by a Skipper in the service record at the conclusion of the month. Such entry in the record shall be countersigned by the owner or his authorised managers superintendent. Where any Skipper desires to report adversely on any such candidate with respect to his conduct, ability and sobriety he shall cause an entry to that effect being made in the record giving details of the same.

12. Enquirer in respect of sea service

(1) Where any candidate desires to have his sea service or as the case may be, watch keeping service assessed under these rules, he may submit his application in accordance with rule 9 to the Principal Officer of the Mercantile Marine Department of any district for such assessment. (2) Where any candidate is not satisfied with assessment of his sea service or, as the case may be, watch keeping service under sub-rule (1) he may apply to the Chief Examiner through the principal Officer, Mercantile Marine Department of any district for re-assessment of his service citing reasons which lent ground for his dis-satisfaction. Every such request shall be accompanied by an application prescribed under rule 9 and documents, testimonials etc. required

under rule 10. Every such application shall be considered on its merits by the Chief Examiner whose decision shall be final. 12. (3) Other enquiries:- All other Enquirer pertaining to any aspect of the examinations shall be addressed to the Principal Officer of the Mercantile Marine Department of any district stating the point on which clarification is sought. Such Enquirer shall be accompanied by necessary documents for verification.

13. Fees-

Every application shall be accompanied by appropriate fees specified in Appendix 'H'.

14. Medical fitness:

Every candidate appearing for examination for any grade of Certificate of Competency shall produce a Certificate of Physical fitness from a registered Medical Practitioner as prescribed in Appendix 'I'.

15. Unsatisfactory conduct :

Where by reason of testimonial produced under rule 10, or otherwise a candidate is considered to have neglected to join a ship or a fishing vessel or to have been found guilty of gross misconduct on board, he may be required to produce satisfactory proof of good conduct at sea for a subsequent period of service not exceeding two years; provided that the Chief Examiner may, after such investigations as he may deem fit, waive the requirement of this rule in the case of any candidate or, as the case may be, reduce the period of subsequent sea service to such extent as he may deem proper.

16. Fraud, Misrepresentations and Bribery :

(1) Any person who makes, or causes to be made, or aids in making any false representation for the purpose of obtaining or for any other person any certificate of competency under these rules shall be liable to be proceeded against in a criminal court. (2) Any candidate who offers or attempts to offer any gratification to any officer of the Directorate General or the Mercantile Marine Department for the purpose of being shown any favour in the examination shall not be allowed to take the examination; nor shall he be allowed to be examined again until a period of at least twelve months has elapsed from the date of the rejection of his candidature.

17. Remission in sea service :

(1) A candidate for the examination for Certificate of Competency as Fishing vessel shall be eligible for remission in qualifying sea service as specified in sub-rule (2), (3) and (4) subject to a maximum remission of 12 months. Such remission shall not however be applicable to service on fishing vessels as specified in sub-rule (3) (a) of rule 4. (2) Any candidate who produces a certificate from the Director, Central Institute of Fisheries Nautical and Engineering Training, testifying to his attendance at an approved course, good conduct and proficiency shall be eligible for remission of full time spent in the Institute subject to a maximum of 12 months. (3) A candidate who has spent time under training for the examination of a fishing vessel in the Lal Bahadur Shastri Nautical and Engineering College, Bombay shall on production of a certificate from the principal of the college in respect of his period of attendance, conduct and proficiency while in college, be eligible for remission to the extent of half the time spent in the college, subject to a maximum of 3 months. (4) A candidate who has obtained an approved Radar Observer's certificate, an approved Life Boatman's Certificate and an approved First Aid certificate shall, on production of such certificates be eligible for a remission of two weeks in the qualifying sea

service: Provided that a candidate who has not completed the above course before appearing for the examination of Certificate of Competency of fishing vessel may be allowed such remission for the purpose of appearing for that examination.

18. Recognition of other Training Ships and Shore Bases Schools and Colleges:

(1) Any training ship of a shore based Nautical school or College other than those specified in rules 17 or 25 may apply to the Chief Examiner for grant of remission in qualifying sea service in lieu of time spent by a candidate in the said training ship, or as the case br, Nautical School or College. (2) On receipt of such application the Chief Examiner may require the syllabus, curriculum and the mode of Training of such institutions to be inspected direct the extent of remission that may be permitted in lieu of time spent by any candidate in any such institution.

19. General Assessment:

(1) Qualifying sea service, or as the case may be watch keeping service shall count from the date of engagement to the termination of such engagement after deducting the period of leave therefrom. Where a ship or a fishing vessel is laid up in a port for an unseasonably long period, that is to say that she has been laid up in a port for a period exceeding one third of the total period of service or for 4 weeks which ever is the less, such period shall not count to -wards qualifying service or, as the case may be watch keeping service. (2) Entries in the record of service or Continuous Discharge Certificate shall constitute evidence of sea service. Any tampering with such entries shall render a candidate disqualified for appearing for examination for a Certificate of Competency of any grade for a period of 12 months subject to the approval of Chief Examiners. (3) Qualifying sea service or, as the case may be, watch keeping service on any fishing vessels of not less than 15 metres in length shall be assessed at full rate. (4) Qualifying sea service or, as the case may be, watch keeping service on fishing vessels of less than 15 metres in length shall be assessed at full rate towards the qualifying service required, to a maximum of 30 months for the examination for the Certificate of Competency as Mate fishing vessel and at two-third rate to a maximum of 12 months watch keeping service for the examination for Certificate of Competency as Skipper of fishing vessel grade-I or grade-II. (5) Qualifying sea service on mechanised fishing vessels not registered under the Act may be assessed at half the rate to a maximum of 12 months provided the record of service is properly authenticated by an officer in the port or the custom department from where such vessels normally operate. (6) Qualifying sea service rendered on a tradingship shall be assessed in accordance with rule

20. Service in non-trading ships shall be assesses in accordance with rule 21. Where a candidate renders mixed service, that is to say he renders a part of such service on trading ships, a part on non-trading ships and a part on fishing vessels, all such service shall be counted towards qualifying sea service. (7) Where watch keeping service of any officer includes doubled watches during a voyage, only two-thirds of the actual watch keeping time so served shall count, subject to a maximum of 9 months. (8) The qualifying sea service or as the case may be, watch keeping service will be reckoned calendar months i.e. the time included between any given date in any month and the preceding day of the following month inclusive. The number of completed months shall first be computed, after which the number of odd days shall be counted. When computing total service the odd days shall be added together and reckoned at 30 days a month. 20. Service on trading Ships (1) Qualifying sea service required under these rules for examination for Certificate of Competency of fishing vessel; shall if rendered on a trading ship count in full, subject to the provisions of rules 4 and 19. (2) Where a candidate has served on a trading ship

other than an Indian ship, his sea service shall be assessed in accordance with the provisions of this rule provided that such service is supported by testimonials in accordance with the provisions of rule 11.

21. Service on Non-Trading Ships

(1) Sea service in the following types of ships which are fitted with mechanical means of propulsion and which go to sea shall be submitted to the Chief Examiner for consideration. Any decision regarding acceptance of such service and the extent up to which it may be so accepted, shall be final :- (a) Ships employed by port authorities such as dredgers, hopper barges pilot vessels, survey vessels etc.; (b) Light house tenders; (c) Cable ships; (d) Oceanographic, exploration or research vessels; (e) Offshore supply ships used in offshore drilling operations; (f) Excursion ships; (g) Tugs employed beyond smooth and partially smooth waters; and (h) Power propelled yachts. (2) Sea service on such ships shall be assessed taking into account :- (a) Area of operation; (b) length of voyage; (c) actual period of stay in port and at sea and the nature of operations performed in port and at sea; and (d) nature of duties performed by the concerned officer beyond watch-keeping duties if any. (3) Application for assessment of sea service on such ships shall be submitted through the Principal Officer, Mercantile Marine Department of any district with testimonials giving details of particulars required by sub-rule (2). Such testimonials shall be endorsed by the Master and the owner.

22. Seamen and Naval Sailors

(1) Sea service performed by seamen in the deck department of a trading ship and sea service performed by deck sailors or by visual signaling sailors in that communication branch of the Indian Navy and Coast guard shall be assessed in accordance with sub-rules (2), (3) and (4) subject to a maximum of 30 months. The period so assessed shall count towards qualifying service for examination for Certificate of Competency as Mate of fishing Vessel and the candidate shall be permitted to appear for this examination, provided he fulfils the requirement of rule 4. (2) Sea service performed in the capacity of a seaman in the deck department or as member of general purpose crew of a trading ship shall be counted in full. (3) Sea service performed by sailors in the deck department on board sea going ships of the Indian Navy and Coast guard shall be assessed at two-thirds of the actual service claimed. (4) Sea service performed by visual signaling sailors in the communication branch on board sea going ships of the Indian Navy and Coast guard shall be assessed at one-half of the actual service claimed.

23. Merchant Navy Officers

(1) Notwithstanding anything contained in sub-rule (3) of rule 5, any candidate who holds the Certificate of Competency as Second Mate of a foreign going ship or Navigational Watch Keeping Officer granted under the Merchant Shipping (Examination of Masters and Mates) Rules, 1979 shall be eligible for the examination for Certificate of Competency as Skipper of fishing vessel grade II, provided that he has at least 18 months watch keeping service on trading ships and has served at least 6 months on a flashing vessel of not less than 15 metres in length on duties associated with fishing and bridge watch keeping under the supervision of a qualified officer. (2) Notwithstanding anything contained in sub-rule (3) of rule 6, any candidate who holds Certificate of Competency as First Mate of a foreign going ship or Mate of a home trade ship granted under the Merchant Shipping (Examination of Masters and Mates) Rules, 1979 shall be eligible for the examination for Certificate of Competency as Skipper of fishing vessel grade, I provided that he has at least 30 months watch keeping service on trading ships and has served at least 6 months on a fishing vessel of not less than 24 metres in length on duties associated with fishing and

bridge watch keeping under the supervision of a qualified officer. (4) Every such candidate shall also comply with sub-rules (1), (2) and (4) of rule-5 or 6, as the case may be, but he shall be exempted from the examination in parts A and C as specified in sub-rule (1) of rules 5 and 6.

24. Indian Navy Officers

(1) Any midshipman of commissioned special duty officer in the executive branch of the Indian Navy who has served on a seagoing ship of the Indian Navy or Coast guard but does not possess a full Naval watch keeping certificate shall be eligible for the examination for Certificate of Competency as Mate of flashing vessel, provided he complies with rule 4. Sea service of such officers shall be assessed in full towards qualifying service, subject to a maximum of 30 months, (2) Any commissioned officer in the executive branch on the Indian navy including a special duty officer, in possession of a full Navy watch keeping certificate shall be eligible for the examination for Certificate of Competency as Skipper of fishing vessel grade I or Grade-II, subject to sub-rule (3). (3) (A) Notwithstanding anything contained in sub-rule (3) of rule 5, every such candidate shall be eligible for examination for Certificate of Competency as Skipper of fishing vessel grade II, provided he has at least 18 months watch keeping service after obtaining the full Naval watch keeping certificate and he has served at least 6 months on a fishing vessel of not less than 15 metros in length on duties associated with fishing and bridge watch keeping under the supervision of a qualified officer. (b) Notwithstanding anything contained in sub-rule (3) of rule 6, every such candidate shall be eligible for examination for Certificate of Competency as Skipper of flashing vessel grade I, provided he has at least 30 months watch keeping service after obtaining the full Naval watch keeping certificate and he less than 24 metres in length on duties associated with fishing and bridge watch keeping under the supervision of a qualified officer. (c) Every such candidate shall also comply with sub-rules (1) (2) and (4) of rule 5 or 6, as the case may be.

25. Remission in sea service for Indian Navy Officers

(1) Any midshipman or executive officer of the Indian Navy appearing for examination for any Certificate of Competency as mate fishing vessel shall be eligible for remission in qualifying sea service as specified in sub-rule (2), subject to maximum as 12 months. Such remission shall however not be applicable to service on fishing vessels as specified in sub-rule (3) (a) of rule 4. (2) (a) time spent by Naval cadets at the National Defense Academy, Khadakvasla shall be counted as sea service of 6 months, provided the candidate has completed the training and has successfully passed the final examination conducted by the National Defense Academy. (b) Time spent by Naval cadets or sub-Lieutenants under training at the Naval Academy, Cochin shall count at one half rate towards sea service required subject to a maximum of 6 months, provided the Naval Headquarters showing his satisfactory attendance at the Naval Academy. (c) Time spent in training courses by an officer not below the rank of acting Sub-Lieutenant at the I.N.S. 'Venduruthy' shall count at one half rate towards sea service required, subject to a maximum of 6 months, provided the candidate produces a certificate from the Naval Headquarters showing his satisfactory attendance at such courses. (d) Remissions in sea service claimed under this rule shall be in addition to those provided in rule 17; subject to a maximum of 12 months.

26. Application of Indian Navy Officers

(1) Any midshipman or executive officer in the Indian Navy including a special duty officer satisfying the requirements of rule 22 may apply for appearing for the examination in the prescribed form set out in Appendix 'F'. (2) Every such application shall be accompanied by certificate of birth, certificate from Chief of Naval Staff or any other person appointed by him on his behalf stating the full particulars of Qualifying sea service or, as the case may be, watch

keeping service performed by the candidate in the Indian Navy along with particulars in respect of the Naval watch keeping certificate and of any training undergone in the training establishments within the meaning of rule 25, testimonials in accordance with rule 11 in respect of sea service in the Merchant Navy and on board fishing vessels if any and Certificate of Competency or service, if any. (3) Application shall be made to the principal Officer, Mercantile Marine Department of the port of examination opted by the candidate through the Chief of Naval Staff so as to reach him not later than one month before the date of commencement of examination. Fee specified in Appendix 'H' shall be forwarded to the principal Officer directly.

27. Places and dates of examinations

(1) Examination for Certificate of Competency prescribed in these rules shall be held in the Mercantile Marine Department at Bombay, Calcutta, Madras, Visakhapatnam and Cochin and at any other port notified by the Examiner in this behalf. (2) Written examination for each grade shall be held on the dates and times to be notified by the Chief Examiner. (3) Date and time for oral and signals examination shall be fixed by the Examiner and sufficient advance notice thereof shall be given to the candidates.

28. Punctuality Every candidate shall present himself in the examination hall prior to the commencement of examination at the appropriate hour. Late comers shall not be admitted for examination except under special circumstances where the Examiner is satisfied that detention was caused by reasons beyond the control of the candidate. The decision of the Examiner in such matters shall be final.

29. No person other than those whose duties require them to be present will be allowed in the examination hall.

30. Loose papers and books save as provided in rule 31. no candidate shall keep any loose papers, reference books or other notes or publications in the examination hall. Any such paper, books, publications or notes shall be cleared out of the examination hall before commencement of the examination. Any default by any candidate shall be deemed to be a misconduct within the meaning of these rules and the defaulter shall be deemed to have failed in the examination. He may also be debarred from appearing for any examination under these rule for a period not exceeding 6 months, subject to the approval of Chief Examiner.

31. Provision of publications and tables (1) Every candidate shall, at the time of the appropriate examination be supplied with the following tables and books, namely:- (a) Admiralty Tide Tables for the Atlantic Ocean and Indian Ocean. (b) Indian Tide tables for Indian ports. (c) Nautical Almanac. (d) International Meteorological Codes for weather reports; and (e) Trim and Stability particulars of a selected fishing vessel. (2) Candidates shall be required to bring their own Nautical tables including Logarithmic tables at the time of the appropriate examination. Such tables shall be free of any hand-written notes and shall be submitted to the Examiner for scrutiny before the commencement of the examination. Any default shall be deemed to be a misconduct within the meaning of these rules and the defaulter shall be deemed to have failed in the examination. He may also be debarred from appearing for any examination for a period not exceeding 3 months, subject to the approval of Chief examiner. Noirs and Burtons Nautical tables shall normally be permitted for use at the appropriate examination.

32. Instruments Candidates may, subject to prior permission of the Examiner, bring into the examination hall their own instruments and use them for answering papers. Candidates other than those appearing for the examination for Certificate of Competency as Mate of fishing vessel

may be permitted to use a slide rule or an electronic calculator having four basis functions and a single memory. In either case the candidate shall be required to show the full working.

33. Damage to tables, books or instruments Any candidate who defaces, blots, over writes or otherwise damages any tables, books or instruments supplied by the Examiner for his use shall be liable to replace such damaged tables, books or instruments by new ones. Until such replacement is made documents submitted by him under rule 10 shall be retained by the Examiner and if such replacement is denied the candidate shall be deemed to have failed in the examination and shall not be permitted to appear for any examination subsequently until such replacement is made.

34. Leaving examination hall No candidate shall leave the examination hall without permission and without handing over his answer paper to the Examiner. Under no circumstances will a candidate be allowed to leave the building while his examination is in progress. Defaulters shall be deemed to have failed in the examination.

35. Answer papers (1) No candidate shall work out problems on any paper except the answer papers supplied to him. Blotting paper supplied to candidates shall not be used for rough working. Such blotting papers shall be returned to the Examiner at the end of each day. Defaulters shall be deemed to have failed in the examination. (2) All work on answer papers shall be in ink but sketches may be drawn in pencil. (3) Answer shall be written in clear and legible hand. At the commencement of answer for every question its serial number shall be written in the left hand margin of the answer paper.

36. Copying during examination Copying from answer papers of other candidates or use of unauthorised books, publications, rules for other manuscripts whatsoever or affording any other candidate assistance for copying from his own answer papers or otherwise communicating with any other candidate any information shall be strictly prohibited. Any such defaulter shall be deemed to have failed in examination. He may be also be debarred from appearing for any examination under these rules for a period not exceeding 6 months subject to the approval of Chief Examiner.

37. Misconduct Save as otherwise provided in these rules, a candidate found guilty of any misconduct, including insolence to Examiner or other examination staff or improper or disorderly conduct in the examination shall on a breach of any of these rules may be liable for punishment in one or more of the ways specified herein under, namely :- (1) Where the examination has not commenced or is not completed the candidate may be debarred from appearing for or, as the case may be, to take further part in the examination. (2) Where the result of the examination is declared, the result the candidate may be amended subject to the approval of the Chief Examiner. (3) Where the candidate has been declared successful in the examination but has not been granted the necessary certificate, the certificate may be withheld for such period as may be decided by the Chief Examiner. (4) In addition the candidate may be debarred from appearing in any examination under these rules for such period as may be specified by the Chief Examiner.

38. Syllabus Subject to the provisions of rule 48, a candidate may apply for examination in any part or parts of the examination for the Certificate of competency for which he is eligible, as specified in sub-rule (1) of rules 4,5 and 6. Syllabus for the examination for all parts shall be as specified in Appendix 'I'.

39. Written examination :

(1) Subjects in written part of the examination for each grade, time allowed for answering question paper for each subject total marks allotted to each subject and the percentage of marks required to be obtained for passing that paper and the written part shall be as specified in the following tables :-

Fishing Vessel	Hours	Total Marks	Passing Percentage
(a) Seaman ship, Safety & Watchkeeping	3	150	50
(b) Meteorology	2	100	50
(c) Navigation	2	200	70
(d) Chart Work	2	150	70
Total		600	60
Skipper of fishing vessel grade-II			
(a) Practical and Principles of	3	200	70

Navi gatio n			
(b) Char t work	2	150	70
(c) Cons tructi on and Stabi lity	3	150	50
(d) Navi gatio n Aids	2	100	50
Total		600	60
Skip per of fishi ng vess el grad e-I			
(a) Pract ical and Princ iples of Navi gatio n	3	200	70
(b) Char t work	2	150	70
(c) Cons tructi on and	3	150	50

Stability			
(d) Navigation Aids	2	100	50
Total		600	60

(2) Any candidate failing in this examination for any Certificate of competency through serious weakness shown may, subject to the approval of the Chief Examiner, be required to attend a course of instruction at an approved institution for a period not exceeding 6 months; before the permitted to reappear for this examination. (3) A certificate from the head of the approved institution concerned showing period of attendance, conduct and considered to be adequate proof for permitting the candidate to re-appear.

40. Oral examination:-

(1) Every candidate for the oral part of the examination shall present himself for such examination at the appointed time. Any candidate failing to do so without reasonable grounds shall be deemed to have failed in the examination. (2) Any candidate failing in this examination for any Certificate of Competency through serious weakness in practical knowledge may be required :- (a) to perform further sea service for a period not exceeding 6 months and or (b) to attend a course of instruction at an institution for a period not exceeding 6 months before being permitted to re-appear for this examination. (3) Such sea service may be performed in any capacity on deck of a fishing vessel and provisions of rules 17 and 25 shall not apply to such additional service, Attendance at the approved institution shall be to be proved by a certificate from the head of the approved institution concerned showing period of attendance, conduct and proficiency attained during such period.

41. Signals examinations

(1) Every candidate for the signals part of the examination shall present himself for such examination at the appointed time. Any candidate failing to do so shall be deemed to have failed in the examination. (2) (a) In the morse flashing test specified in the syllabus two-third of a mark for each correct letter or numerical of the test card and five marks for each correct word of the spelling message shall be allotted. The spelling message shall consist of 12 words. (b) In the semaphore receiving test consisting of 25 words four marks for each correct word shall be allotted. (3) A candidate obtaining 90 per cent of the total marks separately in morse flashing and semaphore tests shall be deemed to have passed in the examination subject to his satisfying the Examiner of his proficiency in the remaining topic specified in the syllabus for the appropriate grade.

42. Re-examination :-

Any candidate may present himself for re-examination after one months has elapsed since his last attempt subject to provisions of rules 39 and 40.

43. Partial passes :-

(1) Where a candidate passes in any one or more parts of the examination, he shall be deemed to have passed the examination partially and such partial pass shall remain valid for a period of 12 months from the date of examination. Provided that the Cheif Examiner may, in special circumstances, extend the period of validity of partial passes by a period not exceeding 2 months. (2) Where any candidate fails to pass in all the remaining parts of the examination during the period of validity of a partial pass he shall be required to appear for that part or parts again as hts next attempt. (3) The result of a candidate who passes the examination partially shall be indicated in the form set out in Appendix 'F'. The candidate may also be given the results of the examination in the form set out in Appendix 'K' if he so desires. Both the forms prescribed shall

specify the date on which the candidate has passed in the respective part of the examination, the date on which he is eligible to appear for his next attempt and, where a candidate is required to perform further sea service or attend a course of instruction, the period of such sea service attendance at such course. (4) For the purposes of this rule the date of examination means the first day of the month in which the examination was held.

44. Letter of Authority :-

(1) A candidate who passes examination under rules 39,40 and 41 (and holds the additional certificates as required by rules 4,5 and 6), shall be deemed to have passed the whole examination. (2) Such successful candidate shall be given a letter of authority in the form prescribed in Appendix 'L' addressed to the principal officer of the port opted by the candidate for delivery of the Certificate of Competency in exchange thereof as and when the certificate is ready for issue. (3) Unless cancelled by or on behalf of the Chief Examiner, Letter of authority referred to in sub-rule (2) shall have the same effect as if it were a Certificate of Competency for the respective grade properly issued under these rules until such time as a Certificate of Competency is issued to the candidate.

45. Insufficient service :-

(1) If after declaration of result for any examination it is discovered that candidate who is declared to have passed the examination was not entitled to appear for it for want of sufficient sea service or, as the Competency or Letter of authority shall not be issued to him. (2) Such candidate shall be equipped to be reexamined after he has completed necessary sea service, or, as the case may be, watch keeping service. Provided that the Chief Examiner may where he is satisfied that the error in the calculation of sea service or as the case may be, watch keeping service was not due to any fault or willful mis-representation on the part of the candidate, dispense with the reexamination and in such case the Certificate of Competency or Letter of authority may be issued to the candidate after he has made up the deficiency in the service.

46. Endorsement of Certificate of Competency :-

(1) Any person holding Certificate of Competency issued under these rules may, on receiving any award from the Government, submit evidence relating to such award to the Chief Examiner together with his Certificate of Competency for an appropriate endorsement on the Certificate. (2) Any person holding a Certificate of Competency issued under these rules may, on obtaining any of the certificate specified herein under submit the same to the Chief Examiner for an endorsement relating to such Certificate being made on his Certificate of Competency, namely :- (a) Certificate of Competency granted under Merchant Shipping (Examination of Masters and Mates) rules 1979. (b) Certificate of Proficiency as Radio Officer issued by the Ministry of Communications. (c) Radar Maintenance Certificate issued or approved by the Ministry of Shipping and Transport. (d) Certificate of Service granted under section 80 of the Act.

47. Issue of Certificate true copy of Certificate of Competency -

(1) Where a Certificate of Competency or a letter of authority issued under these rules is destroyed or defaced or otherwise lost the holder may obtain a certified copy thereof from the Chief Examiner. Application for such certified copy shall be made in the form prescribed in Appendix 'M' to the Chief Examiner through the Principal Officer of the Mercantile Marine Department of any district. Such Application shall be accompanied by a declaration explaining the circumstances in which the original Certificate of Competency or the Letter of authority was destroyed, defaced or otherwise lost. The declaration shall be made in the presence of the

Principal Officer to whom the application is made for onward transmission to the Chief Examiner.
 (2) Every such application shall be accompanied by appropriate fees specified in Appendix 'H'.
 Provided that no fee shall be payable where the cause of loss of Certificate of Competency or Letter of authority is a shipwreck or a fire on board a ship.

48. Removal of difficulties :- (1) Any candidate who has passed the examination for Certificate of Competency under the provisions of Merchant Shipping (Examinations for Skippers and Seconds Hand of fishing vessels) Rules 1964 shall be eligible for the examination for Certificate of Competency under these rules as detail in the table below :-

Grade of Certificate of Competency under 1964 Rules	Condition precedent under these rules held by the candidate for which eligible
---	--

(a) Second Hand F.V. Skipper of fishing vessel grade II	Full Compliance with rule 5
---	-----------------------------

(b) Skipper F.V. Skipper of fishing vessel grade I	Full compliance with rule 6
--	-----------------------------

Provided that, at the time of coming into force of these rules, any candidate with 24 months service in effective command of fishing vessel of not less than 24 metres in length or 36 months service in effective command of fishing vessels of less than 24 metres in length after obtaining the Certificate of Competency as skipper F.V. under 1964 rules, shall be exempted from the written and Signals parts of the examination for the Certificate of Competency as Skipper of fishing vessel grade-I as specified sub-rule(1) of rule 6.

(2) Any candidate who has appeared for an examination for Certificate of Competency under 1964 rules and is not successful in that examination on the date when these rules come into force, shall be permitted to appeal for an examination for Certificate of Competency as detailed below :

Certificate of Competency under 1964 Rules	Equivalent grade of certificate of competency under these rule	Conditions precedent
--	--	----------------------

(a) second Hand (F.V.)	Mate of fishing vessel	Full compliance with rule 4
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(b) Skipper (F.V.)	Skipper of fishing vessel grade II	Full compliance with rule 5
--------------------	------------------------------------	-----------------------------

(3) A partial pass in signals and oral parts of the examination under 1964 rules shall be considered to be a partial pass in the respective examination for the equivalent Certificate of Competency specified in sub rule (2) and the candidate shall be permitted to appear for the written part of the examination for the equivalent Certificate of Competency specified in sub rule (2) (4) Any candidate who has passed in the written part of the examination under 1964 rules but has not passed either the oral or the signals part of the examination shall be permitted to complete the signals or oral part of the examination for the equivalent Certificate of Competency specified in sub-rule (2) but such candidate shall be granted a Certificate of Competency under 1964 Rules. (5) A valid partial pass in written, signals or oral parts of the examination referred to in sub-rules (3) and (4) of this rule shall be valid for a further period of 6 months from the date when these rules come into force.

APPENDIX - A

See Rule 2 (j)

S. No.....

RECORD OF SERVICE

Signature of holder _____

Signature of attesting authority

Name _____

Address _____

(Please see notes on last page) Name of holder in full

(BLOCK LETTERS)

Rank/Rating _____

Name of Father/local guardian _____

Permanent home address _____

Date of birth _____ Place _____

Nationality _____

Colour of hair _____ Eyes _____ Complexion _____

Identification marks _____

Academic qualifications _____

CERTIFICATE

Type of Certi ficates	No .	Date of issu e & Plac e	Date of Issue

1. Cont inuo us Disc harg e Certi ficat e		
2. Pass port		
3. Nava l Sea Servi ce Certi ficat e		
4. Pre-s ea Train ing Certi ficat e		
5. Rada r Obse rver' s Certi ficat e		
6. Life Boat men' s Certi		

<p>7. First Aid at sea Certificate</p> <p>8. Survival at sea Certificate</p> <p>9. Fire Fighting certificate</p> <p>10. Radar Simulator Certificate</p> <p>11. Radio Telephone Operator Certificate</p> <p>12. Elementary</p>		
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15. _____

16. _____

17. Watch Keeping Certificate 18._____ _____ _____ _____ _____ _____ _____ _____ _____ 19._____ _____ _____ _____ _____ _____ _____ _____ _____ 20. Mate of Fishing vessel Certificate of Competency 21. Skipper of Fishing Vessel		
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[illegible]

NOTES

- 1. This record shall be prepared and issued by the employer to the rating before joining the fishing vessel.**
- 2. The entries regarding Certificate shall be filled by the rating as and when he acquires them.**
- 3. The entries regarding fishing vessel service be made by the Skipper at the discharge from the fishing vessel. Any corrections in this table shall be duly attested by the Skipper who made the original entry.**
- 4. This record shall remain in possession of the rating regardless of change of employment.**
- 5. The employer and Skipper should maintain a record of made in this document for future verification or confirmation if any.**

APPENDIX-B

(See rule -3(2)

GOVERNMENT OF INDIA

CERTIFICATE OF COMPETENCY

AS

SKIPPER OF FISHING VESSEL GRADE I

Issued by the Government of India.

To _____

Where as you have been found duly qualified to fulfil the duties of Skipper of Fishing Vessel Grade I on a fishing vessel, the Central Government in exercise of its powers under the Merchant Shipping Act, 1958 (44 of 1958) hereby grants you this CERTIFICATE OF COMPETENCY.

Dated this _____ day of _____

Countersigned :

Chief Examiner,

Registered in the Directorate General of Shipping, Bombay.

DIRECTOR GENERAL OF SHIPPING

GOVERNMENT OF INDIA

CERTIFICATE OF COMPETENCY

AS SKIPPER OF FISHING VESSEL GRADE II

Issued by the Govt. of India.

To _____

Whereas you have been duly qualified to fulfil the duties of Skipper of Fishing Vessel Grade II on a fishing vessel, the Central Government in exercise of its powers under the Merchant Shipping Act, 1958 (44 of 1958) hereby grants you this CERTIFICATE OF COMPETENCY.

Dated this _____ day of _____

Countersigned :

Chief Examiner,

Registered in the Directorate General of Shipping, Bombay.

DIRECTOR GENERAL OF SHIPPING.

GOVERNMENT OF INDIA

CERTIFICATE OF COMPETENCY OF MATE OF FISHING VESSEL

Issued by the Govt. of India.

To _____

Whereas you have been found duly qualified to fulfil the duties of Mate of Fishing Vessel on a Fishing Vessel, the Central Govt. in Exercise of its powers under the Merchant Shipping Act, 1958 (44 of 1958) hereby grants you this CERTIFICATE OF COMPETENCY.

Dated this _____ day of _____

Countersigned :

Chief Examiner,

Registered in the Directorate General of Shipping, Bombay

DIRECTOR GENERAL OF SHIPPING

APPENDIX-C (See rule 7 (1))

SYLLABUS FOR ELEMENTARY FISHING TECHNOLOGY

I. FISHING GEAR AND DESIGN

1. Introduction to Fishing Gear 2. Classification of indigenous fishing gear 3. Modern Fishing Gear and classification] 4. Basic principles of designing different types of fishing gear-gill nets, trawls, seines, lines, bag nets traps etc. 5. Mesh and mesh selectivity 6. Netting-knotted and knotholes webbing 7. Hanging ratio

II. FISHING GEAR MATERIALS

1. Introduction to fishing gear materials and selection of materials in relation to the fish and fishing methods. 2. Classification of fishing gear materials-Natural fibers and man made fibres-description and details. Properties of materials-density, strength, abrasion resistance etc.- Hard ware materials. 3. Numbering system of twines and ropes-Denier, Tex, metric and conversion. 4. Construction of twines and ropes-fiber, yarn, twisting, braiding etc. 5. Steel ropes-material and construction-combination ropes 6. Floats-purpose and types-buoyancy, extra buoyancy 7. Sinkers-purpose and types

III. FISHING TECHNIQUES

1. Principles of catching fish 2. Description of different fishing methods with respect to the type of fish to be caught a. Gill netting-Basic principle a.1. Simple gill net a.2. Trammel net a.3. Combination gill nets (vertical and horizontal combinations) a.4. Fishing depth-surface, midwater and bottom-net and drift. b. Seining (encircling)-Basic principle b.1. Beach seine of shore seine b.2. Boat seine- Lampara, purse seine c. Trawling-Basic principle c.1. Classification of trawls- Beam trawl, otter trawl, otter rigger trawl and mid water trawling. d. Fishing with lines d.1. Simple line, multiple hand line and long line. d.2. Tuna long lining d.3. Sharp and other fish long lining e. Set bag nets-basic principle e.1. Stake nets f. Trap fishing-Basic principles

IV. DECK EQUIPMENTS

1. Introduction to deck equipment and their purpose 2. Different types of deck equipments for various types of fishing 2.1 Trawl winch 2.2 Purse seine winch 2.3 Combination winch 2.4 Net winch (net drum) 2.5 Line haulers/gill net hauler and gurdie long line hauler 2.6 Hand reels 2.7 Fair leads 2.8 Power block and transfer blocks 3. Working principles of the above

V. FISHING ACCESSORIES

1. Otter-boards, kites or elevators, suppressors, beams, trawl heads-purpose 2. Floats, sinkers, Danlono-purpose 3. Purse rings, shackles, thimbles, G. link, Kelly's eye, with-stopper Link 4. Chafing gear

VI. DECK LAYOUT Various types of deck layouts for different types of fishing including combinations.

1. Gill netters- Bow pickers, stern picker and reel gill netter 2. Trawler- Stern trawler, side trawler and otter-rigger trawler 3. Purse-seiner 4. Long-liner 5. Combination vessels etc. (Trawler-purse seiner, trawler gill netter, multipurpose)

VII. FISHING BIOLOGY AND FISH HANDLING

1. Marine environment 2. Migration of fishes 3. Marine Fisheries of India 4. Handling of fish on board

VIII. OCEANOGRAPHY AND MARINE METEOROLOGY

1. Atmosphere, Atm. pressure, water vapour in the atmosphere, visibility, clouds 2. Pressure gradient and wind. General pressure and wind distribution in the Indian Ocean- periodic and local winds 3. Weather messages 4. Net instruments normally used in fishing vessels

IX. FISH FINDING

1. Elementary acoustics 2. Electronic equipments used in fishing

X. FISHING GEAR PRACTICALS

1. Basic netting - meshbar, mesh size - stretch mesh and cross mesh (run with the mesh and across mesh) 2. Net making implements-Needle and gauge 3. Basic net making-practice with trawl knot reef knot (square knot double knot etc.) 4. Shaping of netting by trading-creasing, baiting 5. Shaping of netting by tailoring 6. Hanging (mounting) of netting, Top & side mounting, different methods Hanging ratio. 7. Joining of netting 8. Mending 9. Splicing-rope splicing and wire rope splicing

APPENDIX-D (See rule 7 (2))

SYLLABUS FOR ADVANCED FISHING TECHNOLOGY COURSE

I. FISHING GEAR AND DESIGN

1. Introduction to fishing gear- Basic principles of catching fish 2. Classification of modern fishing gear 3. Principles of designing different types of fishing gear a. Gill net a.1 Surface gill net a.2 Bottom gill net Set and drift a.3 Trammel net a.4 Vertical combination and horizontal combination net 4. Netting-mesh, bar, stretch mesh, cross mesh 5. Shaping of netting braiding, tailoring 6. Importance of hanging ratios for different type of fishing gear, with respect to the type of fish

II. FISHING GEAR MATERIALS

1. Different kinds of netting materials-natural and synthetic 2. Selection of materials in relation to fish and fishing methods-specific gravity, abrasion resistance diameter twist, strength sinking speed etc. 3. Selection of steel wire ropes and combinations ropes-construction, flexibility strength

III. FISHING TECHNIQUE

1. Modern fishing methods 1.1 Description of the important types of modern fishing methods 1.2 Recent developments and improvements on modern fishing methods like aimed trawling, purse-seining with light, electric fishing etc. 1.3 Mid water trawling-single boat and two boat 2. Gill nets Simple gill net, trammel net, gill net with vertical and horizontal combinations-surface, bottom and column-set and drift 3. Hook and line fishing 3.1 Reel hand lines for kalava 3.2 Tuna long lining 3.3 Shark long lining 3.4 Lining for other fishes 3.5 Squid jigging 3.6 Trap fishing

IV. DECK EQUIPMENTS

1. General deck equipment, winches gurdies, line haulers, power blocks. Heaving net winches-net drums, reels, fair leads, bollards etc. 2. Deck fishing equipment (a) Trawl which (in line and parallel (drum) - description, working, capacity (wire capacity and load taking capacity) speed and selection (b) Purse-seince winch (as above) (c) Combination winches - (as above) (d) Split winches - (as above) (e) Net winches - (as above) (f) Gurdie - Description, working, speed, load taking, capacity, selection (g) Line hauler- (h) Hand line reels - description, working capacity and selection (i) Transfer block - description, working and selection (k) Trawl eye winch (cable winch) (l) Net cable winch (m) Tripler net winch - description and function

V. FISHING ACCESSORIES

1. Otter boards 1. (a) Rectangular 1. (b) Oval 1. (c) V - Form 1. (d) Vertical curved 1. (e) Horizontal curved - selection of other boards 2. Beams (for beam trawls) description, size. 3. Trawl head (for beam trawls) description, working and shapes 4. Kites/ elevators-description, working and types 5. Supressors-discription, working and types 6. Danleno-function, types and description 7. Floats, sinkers, bobbins, ground rope etc. function, description , types, selection 8. Purse-rings, cod end rings, shackles, swivels, thimbles-function, description , types and selection 9. Fair leads-function, description and shapes 10. Billiards, cleats, capstan etc. 11. Hydrographic winch-purpose

VI. DECK LAYOUT

1. Gill nether Type and size of vessel ,deck space, position of engine, deck layout for efficient operation, installation of the appropriate deck equipment for handling the gear (bow picker, stern picker, reel gill nether). 2. Trawler 2. (a) Stern trawler Type of winch, type of fairleads, type of gallows, positioning and installation, arrangements for ramp type stern trawling, leading of towing warps, arrangements for heaving cod ends, arrangement for outrigger trawling. (b) Side trawler- winch, fair leads, gallows, towing blocks-type, size selection, positioning and installation (c) Out-rigger trawler Type of winch, type of fairleads, type of gallows, positioning and installation, arrangements for ramp, type stern trawling, leading of towing warps, arrangements for heaving cod ends, arrangements for out-rigger trawling. (d) Purse-seiner (d) 1. Purse-seine winch (type, capacity, speed- selection, positioning and installation) (d) 2. Purse- davit-type, positioning and installation (port-side or starboard side-direction of encircling-clockwise/anticlockwise) (d) 3. Bowthruster, stern thruster-function (d) 4. Net hauling winch (triplex net winch)-function, type, positioning and installation . (d) 5. Power blocks - capacity, speed, type, positioning and installation (d) 6. Transfer block-type, positioning and installation (d) 7. Net chute-positing long liner-size of vessel and endurance in relation to fishing ground (a) Long line hauler-type, size, speed (variable speed) selection, positioning and installation (b) Shooting tray and chute-positioning (c) Bait-bait container-storage (d) Conveyor system while hauling (e) Rail roller-type function, position and installation (f) Positioning of fish hold and capacity (g) Processing facility (h) Typical deck arrangements for the above with possible alternatives Combination vessels-best type of combination for efficient operations.

VII. FISHING BIOLOGY AND FISH HANDLING

1. Interrelationship between plankton and pelagic fisheries benthic organisms and bottom fisheries. 2. Important commercial fishery resources of India. 3. Fish behavior in relation to fishing gear. 4. Fish handling.

VIII. FISH FINDING

1. Electronics in fishing 2. Fish sounder, Sonar and Net sonde, Practical application 3. Interpretation of echo grams

IX. OCEANOGRAPHY AND METEOROLOGY

1. Fish behavior in relation to environmental conditions 2. Weather warning

X. FLEET MANAGEMENT

1. Organisation of fishing fleet Type and size of vessel required vis-a-vis resources/fishing grounds/methodology 2. Shore facilities 2 (a) Berthing-loading/unloading 2 (b) Bunkering 2 (c) Fresh water 2 (d) Storage 2.d.1 Cold storage/ice plant d. 2. Fishing spares d.3. Engine spares d.4. General 2. (E) Processing-freezing/canning 3. Management of personnel.

APPENDIX-E (See Rule-(8))

SIGHT TESTS PART-I

1. Preliminary :-

(a) The purpose of these tests is to ensure that the candidate's eye-sight is sufficiently good to enable him to pick up and identify correctly the lights of distant ships at sea. Experience has shown that for this purpose he must be able to reach certain minimum standards in both form and colour vision. (B) The tests employed are a letter test and a "lantern test" details of which are given below. The letter test is a test of form vision only and the lantern test is one of form and colour vision combined. (C) The Examiner shall keep a record of all mistakes made by the candidate both in the letter test and in the lantern test.

2. Application :-

(a) Every candidate who is going out to sea to serve in the deck department of any vessel for the first time and any other candidate who desires to undergo the sight test other than as part of the examination for a Certificate of Competency, shall apply in the form prescribed in Annexure to this Appendix and shall pay the fees prescribed in Appendix 'H'. (B) A candidate for examination for Certificate of competency shall not be required to make a separate application for sight test and no fees shall be paid by him other than the fees prescribed in Appendix 'H' for the examination for a Certificate of Competency.

PART-II LETTER TEST

3. Apparatus :-

The first test which the candidate shall be required to undergo shall be the letter test conducted on Scellen's principle by means of sheets of letters. On each sheet the fifth, sixth and seventh lines correspond to standards 6/12, 6/9 and 6/6 respectively.

4. Artificial aids :-

Before the commencement of the test, the candidate who is not a new entrant shall advise the Examiner whether or not he intends to use artificial aids to form vision. Such aids shall constitute of either spectacles or contact lenses. Tinted lenses shall not be permitted.

5. Standards of vision required :

(a) Candidate will be tested in each eye separately (b) A candidate, other than a new entrant, who attempts the sight test without the use of artificial aids shall be required to read down to and including the seventh line with the better eye and down to and including the sixth line with the other eye. (c) A candidate, other than a new entrant, who attempts the sight test using artificial aids shall be required :- (i) with artificial aids, to read down to and including the seventh line with the better eye and down to and including the sixth line with the other eye; and (ii) without artificial aids, to read down to and including the fifth line with the better eye and down to and including the third line with the other eye. (d) A candidate who is a new entrant shall be required to read down to and including the seventh line with the better eye and down to and including the sixth line with the other eye. He shall also be required to read all letters in the seventh line with both the eyes. He shall not be permitted to use artificial aids.

6. Method of testing

(a) The test card shall be mounted at a convenient height and shall be properly illuminated. Daylight shall not be used. The testing room shall be moderately lighted so that extreme contrast between the test card and background is avoided. (b) The candidate shall stand exactly 6 metres from the card facing it squarely. He shall then be required to read the letters on the sheet from left to right beginning at the top and going downwards. (c) Care shall be taken, by varying the order of the test sheets, to guard against the possibility of any deception on the part of the candidate.

7. Failure :-

If the candidate fails to reach the standard required on the first sheet, he shall be tested with sheets. If he fails to reach the standard in at least 3 of the 4 sheets the following alternatives may be explained to him. (a) He may break off the test and present himself for resetting in not less than three months, in which case a certificate of failure shall be issued to him in form prescribed in Annexure-II to this Appendix; or (b) If he is not a new entrant and has not used artificial aids at his first attempt, he may present himself for resetting any time with artificial aids, or (c) He may proceed to the lantern test. In this case, a record of all mistakes made in the letter test and all mistakes, if any made in the lantern test shall be forwarded to the Chief Examiner who shall decide whether the candidate has passed or failed in the sight test.

PART-III LANTERN TEST

8. Apparatus :-

(a) A special lantern and a mirror shall be provided for this test. The test is to be conducted in a room so darkened as to exclude all light. (b) The lantern shall be placed directly in front of the mirror so that the front part of the lantern shall be exactly 3.05 metres from the mirror and in such a position that the light reflected in the mirror show clearly when viewed by the candidate on the left of the lantern.

9. Artificial aids :

A candidate, other than a new entrant, who has used artificial aids in the letter test may continue to the such aids in the lantern test.

10. Darkness adaptation :

If a candidate makes mistakes at the beginning of the lantern test, he shall be kept in a completely or partially darkened room for at least a quarter of an hour and shall then begin the test again.

11. Method of testing :

(a) The lantern supplied for the test shall be so constructed as to allow 1 large or 2 small lights to be visible and is fitted with glasses of 3 colours viz. Red, white and green. At the beginning of the test the candidate shall be shown a series of lights through the large apertures and he shall be required to name the colours as they appear. (b) Subsequently 4 full circuit and 1 broken circuit with the 2 small apertures shall be shown to the candidate who will name the colours of each set of 2 lights from left to right.

12. Result :

(a) If a candidate does not make any mistakes in the lantern after passing the letter test, he shall be deemed to have passed the whole test and the Examiner shall issue a certificate to that effect in the form prescribed in Annexure-II to this Appendix. (c) If a candidate makes any other mistakes in the lantern test i.e.: if he calls white as "Red" or red as "White" or confuses between

green and white, his case shall be submitted to the Chief Examiner and he shall be informed that the decision as to whether he has passed or failed or must undergo a further test, shall be communicated to him in due course. Pending the receipt of the Chief Examiner's instructions the candidate may be allowed to proceed with his examination for a Certificate of Competency on the express understanding that this examination will be cancelled in the event of his failure in the sight test.

13. Re-testing of unsuccessful candidates :

A candidate who fails in the lantern test shall not again be tested locally, unless the Chief Examiner directs that he may be so tested.

PART-IV SPECIAL EXAMINATION AND APPEALS

14. Special examination :-

In the case of any candidate who is referred to the Chief Examiner under the provisions of sub-paragraph (c) of paragraph 12, the Chief Examiner may make arrangements for a special examination.

15. Appeals :-

A candidate who is adjudged to have failed in the lantern test may appeal for a review. In every such case, the Chief Examiner shall make arrangements for examination of the candidate. Every such appellant shall pay appropriate fee as prescribed in Appendixes which shall be refunded to him if he is declared to have passed the examination.

16. Examination Board :-

The special and appeal examinations shall be conducted by a Board consisting of Chief Examiner or his nominee and a specialist adviser on eye sight appointed by the Chief Examiner.

17. Punctual attendance :-

(a) Whenever any special or appeal examination by Board is arranged, the Chief Examiner shall give sufficient advance notice of the date and time of such examination to the candidate. (b) Any candidate who is unable to attend the examination shall immediately inform the Chief Examiner of his inability and reasons therefore. If satisfied, the Chief Examiner may alter the program of examination and give notice to the candidate of revised time schedule of the examination. (c) If any candidate for special examination under paragraph 14, fails to appear for the examination at the appointed date and time, the Chief Examiner may defer his examination by an indefinite period. (d) If a candidate, being an appellant under paragraph 15, fails to appear for the examination at the appointed date and time, the fee paid by him shall be forfeited. Arrangement for his examination by the Board on any other date may be made on payment of a further fee under paragraph 15.

18. Failures :-

(a) Where, on examination any candidate appearing before the Board under paragraph 14 for 15 as found to have a permanent defect in his eyesight which renders him unfit for a sea career, such candidate shall be finally rejected and may not be permitted to appear for sight test on any occasion in future except under paragraph 19. (b) Any candidate who fails in the examination but is not finally rejected by reason of being found to be free from any permanent eye defect, may, at

his choice appear before the Board for examination as an appellant under paragraph 15 after a lapse of three months from the date of examination or seek re-examination under paragraph 19.

19. Re-examination :-

(a) Any candidate who fails in the appeal examination whether due to permanent defect in eye or not may seek re-examination by the Board in the presence of an ophthalmic surgeon appearing on his behalf on payment of fee prescribed in Appendix (E). This fee shall not be refunded whether the candidate is finally adjudged to have passed or failed. (b) The date and time of the re-examination shall be fixed by the Chief Examiner in consultation with candidate and ophthalmic surgeon. If the candidate fails to appear for the re-examination, the fee shall be forfeited. Arrangement for re-examination on any other date shall be made only on payment of further fee under this paragraph.

ANNEXURE-I

Rotation No. (Official use only)

APPLICATION FOR SIGHT TEST

- (1) Place of Examination : _____
- (2) (a) Surname : _____ (BLOCK LETTERS)
- (b) full name : _____ (BLOCK LETTERS)
- (3) Permanent address : _____
- (4) Discharge Book No. (If any) : _____
- (5) Nationality : _____
- (6) Date of Birth : _____
- (7) Place of Birth : _____
- (8) Height (cms) : _____
- (9) Colour of eyes : _____
- (10) Complexion : _____
- (11) Identification Marks : _____
- (12) Rank (if serving at sea) : _____
- (13) If about to go to sea : _____
- (a) Name of company : _____
- (b) Capacity : _____
- (14) (a) Date of previous eye sight test : _____
- (b) Results : PASSED/FAILED

Declaration of candidate : I hereby declare that the particulars stated above are correct and true to the best of my knowledge and belief. I further declare that except as stated in Column 14. I was not examined in an eyesight test held in any Mercantile Marine Department. I wear/do not wear artificial aids to vision. Signature of candidate

The above declaration was signed in presence
of _____ Examiner of Masters and Mates, Mercantile
Marine Department District.

B. A fee of Rs. was received for examination in sight test

Signature Date : Place :

C. EXAMINERS CERTIFICATE : I hereby certify that the candidate described above was examined in sight test under the provisions of appendix 'B' of the Merchant Shipping (Examination of Skippers and Mate of Fishing Vessel) Rules, 1981.

*The result of the test was as follows :- With or without aids to vision Form Colour Results
Standard _____

New

Entry _____ 1.

He may be examined at any time with artificial aids to vision 2. He may be examined after a lapse of three months. 3. He may not be examined again without the prior approval of the Chief Examiner

EXAMINER Note : If failed or to be referred for further advise, one copy of this application form shall be forwarded to the Chief Examiner with detailed report.

*Where not examined, indicate by stating N.E. Delete if not applicable.

ANNEXURE - II

SIGHT TEST CERTIFICATE

Full Name : (BLOCK LETTERS) Date of birth Place..... Rank Height Colour of eyes Hair Complexion Identification Marks

..... Result of examination..... *with/without artificial aids to vision

*1. May be examined locally any time with artificial aids 2. May be examined locally in three months time. 3. May not be examined locally except by order of the Chief Examiner * Delete the words that do not apply.

.....
.....
I hereby certify that the particulars contained above are correct. Dated at District, this day of 19 Signature of examiner :

Signature of candidate :

Note : The candidate should produce this Certificate when applying for re-examination.

APPENDIX F

See Rules 9 (1), 26 (1), 43 (3)

Rotation No (Official use only)

APPLICATION FOR EXAMINATION OF SKIPPERS & MATE OF FISHING VESSEL

1. Grade of Examination

2. Place of Examination : BOMBAY/CALCUTTA/MADRAS/VISAKHAPATNAM/COCHIN

3. (A) Surname (IN BLOCK LETTERS)

(b) Full name (as on records BLOCK LETTERS)

4. (a) Permanent address :

..... (b) Present

address:..... (c)

Telephone No. (if any)

5. Discharge Book or Record of service : No. :

..... 6. Nationality :

..... 7. Date of birth

..... (proff to be produced) 8. Place

of birth 9. Height Cms.

10. Colour of eyes Hair 11. Complexion :

..... 12. Personal marks

..... 13. Details of previous Certificate of

Competency / Service (if any)

(a) Grade : FG/HT (b) Certificate No. (c) Date passes

..... 14. Was your certificate cancelled or suspended by any authority ? Give details :

..... 15. Details of scholastic education and professional training :-

(a) Scholastic Education : School / college Examination passed

.....

(b) Pre-sea training : LBS N & E College / Indian Navy others.

(c) Period of attendance at CIFNET / AIDC / RAJENDRA / DIRECT / SEAMAN - From

prior to first attempt. (Certificate to be produced) -To

Take notice - Any person who makes, procures to be made or assists in making any false representation for the purpose of obtaining for himself or any other person, a Certificate of Competency or service is for each offence liable to be punished for cheating under Section 420, of the Indian Penal Code and also for knowingly giving false information to the public servant under Section 182 of the Indian Penal Code.

16.Full particulars of sea service

TN	FF	To	Period	Remark
ea	cr		d	Y.M.D.
rn	nc			
neg	n			
i	cho			
nft	f			
ct	F			
rh	e			
ie	g			
av	i			
le	s			
s	t			
s	r			
e	y			
l	&			
	C			
	a			
	p			
	a			
	c			
	i			
	t			
	y			
1.				
2.				
3.				
4.				
5.				

17. FOR OFFICIAL USE ONLY :

Certificate ----Particulars No. Date issued ---Total service at sea for which proof is now produced

Sea Service (1) Candidate's record book scrutinised and found

Birth /not to be satisfactory

Watch Keeping (2) Candidate described above is eligible to appear for (total nos) examination for

Certificate of Competency Competency/Service as

..... First Aid at sea

Life Boat

Radar Observer

Radar Simulator Course Subject to remarks in Section

Radio Telephone Operator

Elementary Fishing

Technology.....

Advanced Fishing Technology.....

EXAMINER

18. Declaration to be made by the candidate "I hereby declare that the particulars contained in paras 1 to 16 of this form are correct and true to the best of my knowledge and belief and that the documents whose particulars are contained in para 17 and submitted with this form are true and genuine, given and signed by the person whose name appear on them. I further declare that the statement in para 16 contains a true and correct account of the whole of my sea service without exception, and I make this declaration conscientiously believing the same to be true".

Signature of candidate

The above declaration was signed in my presence

EXAMINER

Mercantile Marine Department BOMBAY/MADRAS/CALCUTTA/VISAKHAPATNAM/COCHIN

19. Request for allotment of seat for examination

No.	of	Exa
at	ces	mina
tem	Pa	tion
pt	id	Part
h		

Signature of candidate with date

	Ac nae cta ued n . t b y	FAB C	
1.			
2.			
3.			
4.			
5.			
20. Result of examination :			
Sight Test	FEx Fame sinan utioa l n r t pak S rt s	Signature	
Port/Dat e	iAEC g n a t u r e		
1.			
2.			
3.			
4.			
5.			
21. Under the provision of rules and this candidate is required to attend course of instruction/perform further sea service as follows :-			
Month	FFNS ceei roxg tutn ciea frlt Eei u	Signature of candidate	

	xn gr ae ie nn bc it lf n ee a x t a i n c i n e r	
1.		
2.		
3.		
4.		
5.		

22. Certificate of examiner:

I hereby certify that (a) The candidate has produced satisfactory testimonials and proofs of sea service/watch keeping service. (b) The candidate complies with the requirement of M.S. (examination of Skippers and mate of Fishing vessel) Rules with the exception of the following. He has however been permitted to appear for the examination under the provision of rules

.....
.....

1.

2.

3.

4.

5.

(c) The candidate has passed the examination for the Certificate of Competency as..... and letter of authority No date was issued to him. His certificate of Competency may be forwarded to Mercantile Marine Department for issue subject to compliance with sub-para (b) above.

Examiner

Mercantile Marine Department

..... **District**

APPENDIX-G (See Rule 11 (1))

WATCHKEEPING CERTIFICATE

This is to certify that Shri has served on from to in the capacity of 1st/2nd/3rd/4th Watch keeping Officer under my commend.

*During this period Shri was an officer in full charge of a watch for not less than Eight/Six hours out of every twenty four hours of service. In addition he has regularly carried out additional routine duties in connection with the maintenance of the fishing vessel for not less than two hours out of every twenty four hours of Service.

*During this period Shri was associated with watch keeping duties under the supervision of Shri holding Certificate Competency as for not less than hours out of every twenty four hours of service.

*Brige watches were doubled during the following periods and at no other times.

.....
.....

*During these period Shri served as Senior/Junior of the two watchkeeping officers.

*During the period of engagement stated above Shri was /was not granted leave of absence from to the vessel was in dry dock / undergoing hull and deck repairs.

Report on conduct

.....

Report on ability

.....

Report on sobriety

.....

Signature of Skipper

*Delete if not applicable

Name

APPENDIX - (H)

See Rules 13, 26(3), 47 (2) and paras 2, 15 and 19 of Appendix -E

FEES

- 1. Assessment of sea service (for all grades) Rs.30/-**
- 2. Examination for Mate of Fishing vessel each part Rs.10/- 3. Examination for Skipper of Fishing Vessel grade II each part Rs. 20/-**
- 4. Examination for Skipper of Fishing Vessel grade I each part Rs. 30/-**
- 5. Sight Test Rs.10/-**
- 6. Sight Test appeal Rs.100/-**
- 7. Sight Test re-examination Rs.200/-**
- 8. Issue of certified true copy of Certificate of Competency or Letter of authority Rs. 50/-**

APPENDIX - I

See Rules - 14

CERTIFICATE OF MEDICAL FITNESS FOR AN OFFICER TO WORK ON BOARD SHIP

Date of examination : Passport /CDC No.Name of the Candidate :Colour of eyes:

PermanentAddress of the candidate : Hair : Complexion : Age : Height :

Identification marks :

- 1.**
- 2.**
- 3.**

Result of the medical examination

Signature or thumb impression of office :

Seal Place Date Signature of the Medical Officer

Note : In case a candidate is declared unfit reasons for unfitness to be indicated.

APPENDIX -J

See Rule - 38

SYLLABUS OF MATE OF FISHING VESSEL

PART -A

Time : 3 hours Marks : 150

1. SAFETY, SEAMANSHIP AND WATCHKEEPING

- 1. General definition of main dimensions. The names of the principal parts of a fishing vessel.**
- 2. (a) The meaning of the terms Block co-efficient, Displacement and Deadweight. Laws of floating body. Use of displacement and tonnes per centimetre immersion scales to determine weights of cargo or ballast from draught or freeboard. Effect of density of water on draught and freeboard. Fresh water allowance. The meaning of the terms Buoyancy and Reserve buoyancy. (b) The meaning of the terms Centre of gravity, centre of buoyancy, Metacentric height, Righting lever and Righting moment. Stable, unstable and neutral equilibrium. The effect of adding and removing weights on ship's centre of gravity, centre of buoyancy, metacentric height and list. Use of stability and hydrostatic data as supplied to fishing vessels and calculations based thereon.**
- 3. (a) Maintenance of fishing vessels. (b) Safety care and maintenance of all life saving and fire appliances, light and sound signals and safe practices to be followed when fishing.**
- 4. (a) Sextant - The construction and use of the marine sextant, including the optical principles involved The detection and correction of sextant errors. The principles and use of the vernier and micrometer scales. (b) Chronometer - The use and care of marine chronometer and its errors. (c) Magnet Compass - The use and care of magnetic compasses. Magnetic and non-magnetic materials and their effect on the compass. Checking compasses. Practice; limitation of the magnetic compass. (d) GYRO COMPASS :- An elementary knowledge of the use and care of marine gyro compasses, including the procedure for starting and stopping. Routine oiling and cleaning. Routine operational checks. Application of latitude and speed error. (e) Bearing Instruments :- The construction and use of azimuth mirrors. Procedure for checking accuracy of azimuth mirrors. The construction and use of a Pelorus. (f) Maintenance of navigational records.**

Time : 2 hours Marks : 100

2. METEOROLOGY

- (a) General idea of the atmosphere Diurnal variation and seasonal variation of atmospheric temperature over land and sea. (b) Atmospheric pressure- Semi-diurnal variation and seasonal variation Barometric tendency. Storm prediction by observations of atmospheric pressure- The use of barometric observations and weather signs at a single station to predict the onset of a depression or storm. (c) Water vapour in the atmosphere. Evaporation, condensation precipitation, relative humidity, saturation, dew point. Formation of dew. The differences between drizzle, rain and hail. (d) Visibility- definition, judging and reporting visibility. Meaning of mist, fog, haze, spray and their effect on visibility. (e) Clouds- Classification due to height and appearance of the ten basic types commonly seen and their abbreviations. (f) Pressure gradient and wind-Isobars and pressure gradient Meaning of veering, backing, gust and squall, Buys Ballot's Law and cautions when applying it to cyclones in the Arabian sea and Bay of Bengal. Their probable tracks and frequencies Laws of storms. The Beaufort wind scale and Beaufort**

weather notation. (g) True and apparent wind- their meaning and difference. Methods of estimating direction and force of wind at sea. Simple problems on true and apparent wind. (h) General pressure and wind distribution in the Indian Ocean. (i) Periodic and local winds-Land and sea breezes, monsoons, Nor-western and Elephants. (j) A knowledge of the weather messages available for shipping. Storm warning signals on the Indian Coasts. (k) A detailed knowledge of the meteorological instruments normally used on fishing vessels :

Time : 3 hours Marks :200

3. PRACTICAL NAVIGATION :

(a) The shape of the earth. Poles, equator, meridians, and parallel of latitude. Position by latitude and longitude. Bearing distance, units of measurement. Difference of latitude difference of longitude, departure, mean and middle latitude, difference of meridional parts and the relationship between them. Use of position lines with or without run. (b) Practical problems on plane, parallel and Mercator sailing. (c) The use of the traverse tables to obtain the position of the ship at any time, give compass courses, variation deviations and the run recorded by long or calculated by time and estimated speed. allowing for the effects of wind and current, if any. (d) To find the latitude by meridian altitude of a heavenly body. (e) To find position line and position through which it passes from an observation of sun out of the meridian. (f) To find the true bearing of a heavenly body, the compass error and thence the deviation of the magnetic compass of the direction of the ship's head.

Time : 2 hours Marks :150

4. CHART WORK :

(a) Given variation and deviation of the magnetic compass or gyro error, to convert true courses into compass courses and vice-versa. To extract the deviation from sample table of deviations, thence to convert true courses into magnetic and compass courses. To find the compass courses between two positions. (b) The effect of current on speed. Allowance for leeway. Given compass courses steered, the speed of the ship and direction and rate of currents to find the true courses made good. To find the course to steer allowing for a current. Given compass course steered and distance run, to determine the set and rate of the current experienced between two positions. (c) To fix the position on a chart by simultaneous cross bearing bearing and range, positional information from radio aids to navigation or by any combination applying the necessary correction. (d) To fix the position by bearings of one or more objects with the run between, allowing for a current and to find the distance at which the ship will pass a given point. (e) The use of position lines and circles obtained by any method. (f) To find the time and height of high and low water at standard ports. (g) Candidates will be examined orally on the information given on a chart or plan particularly about :- Buoys, lights, Radio Beacons, Navigational Aids, depths and nature of bottom, use of soundings, recognition of the coast and Radar responsive target, depth and height contours. (h) Candidates will be required :- (i) To demonstrate the ability to make intelligent use of sailing directions, Admiralty catalogue of charts and list of lights. (ii) To understand the use of Notices to Mariners and to be familiar with the process of chart correction. (iii) To understand the dangers of placing implicit reliance upon floating navigational aids. (iv) To understand the use of Decca lattice charts and Decca correction sheets.

PART B

ORALS

- (a) To read, understand and make use of a barometer and thermometer. The instruments supplied by the Meteorological Office will be taken as standard.**
- (b) To use an azimuth mirror, pelorus (bearing plate) or other instrument for taking bearings.**
- (c) To use a sextant for taking vertical and horizontal angles, to read a sextant both on and off the arc, to correct a sextant into which has been introduced one or more errors of perpendicularity, side or index; to find the index error of a sextant.**
- (d) The rigging of fishing vessels, methods of ascertaining proof and safe-working loads of ropes including synthetic fibre and wire ropes without certificates of proof loads. Rigging purchases and a knowledge of the power gained by their use. Knots, hitches and bends in common use. Seizings, rackings, rope and chain stoppers. Splicing plaited and multi-strand manila and synthetic fibre rope and wire rope with strict reference to current practice. Slings a stage, rigging and bosun's chair and pilot ladder.**
- (e) Marking and use of ordinary lead lines.**
- (f) Preparations for getting under way. Duties prior to proceeding to sea, making harbour, bearing alongside quays, jetties, or other ships and securing to buoys.**
- (g) Helm orders, conning the fishing vessel. Effects of propellers on the steering of a fishing vessel Stopping, going astern knowledge of manoeuvring capabilities of fishing vessels including turning circles, stopping. distances etc. Effects of wind and currents on handling of fishing vessels. Turning a fishing vessel short round Emergency manoeuvres. Bringing a fishing vessel to single anchor in an emergency. Man overboard.**
- (h) The duties of the watch keeping officer at sea, at anchor and at open roads.**
- (i) Anchors and cables: their use and stowage.**
- (j) Knowledge of the use of all deck appliances including emergency steering gear.**
- (k) Use and upkeep of sounding appliances; Use and care of light and sound signalling equipment including pyrotechnic light.**
- (l) The use and care of life-saving appliances including handling characteristic, construction and stowage of life-rafts, Emergency signal, abandon ship signal, Bending, setting and taking in lifeboat sailsm, management of boats under oars, sails power and in heavy weather, recovering boats at sea, Beaching or landing. Survival procedure in life-boats and life rafts. The use and care of rocket and line throwing apparatus.**
- (m) The use and care of fire appliances including the smoke helmet, emergency fire pump and self-contained breathing apparatus.**
- (n) Action to be taken on discovering a fire:- i. in port ii. at sea.**
- (o) Knowledge of the precautions to be observed to prevent pollution of the marine environment.**
- (p) A full knowledge of the content and application of the Collision Regulation.**
- (q) Distress and pilot signals; penalties for misuse, International life-saving signals.**

(r) A knowledge of the contents of 'Merchant shipping Notices' and 'notice to Mariners'. The use of Notices to Mariners and Merchant ship search and resume manual. (MERSAR)

(s) The I.A.L.A. system of buoyage, Precautions while using floating navigational aids e.g. buoys, light vessels etc.

(t) The examiner may ask the candidate question arising out of the written work, if it is deemed necessary on account of weakness known by the candidate.

PART -C

SIGNALS

1. To send and receive signals :- (a) Semaphore upto eight words per minute. (b) Morse-code by flash lamp up to six words per minute. (c) International code of signals.

2. Use of Radiotelephony on board a fishing vessel for transmission and reception of navigation warning, urgency and distress messages in emergency.

SYLLABUS OF SKIPPER OF FISHING VESSEL GRADE H

PART A

Time : 3 hours Marks : 200

1. PRACTICAL AND PRINCIPLES OF NAVIGATION

Note: In addition to the syllabus for Mate of a fishing vessel the candidates shall be required to have knowledge of the following :- (a) The celestial sphere, Declination, Azimuth, sidereal hour angle. The position of a body on the celestial sphere; azimuth, with the altitude, declination with sidereal or local hour angle of mean sun. Ecliptic, first point of aries. Greenwich and other standard times, mean time, apparent time, sidereal time, equation of time, relationship between longitude and time. (b) To find latitude by observation of the pole star. (c) To determine the direction of the position line and a position through which it passes from an observation of a star or sun out of the meridian. (d) To determine the position of the ship from two simultaneous observations of stars or by observation of a star and sun with a run between or a star and the bearing of a terrestrial object.

Time : 2 hours Marks : 150

2. CHART WORK

(a) The use of a single position line in approaching the coast. (b) Reliability of charts. (c) Selection of suitable points for bearing or for fixing the ship's position by means of horizontal angles. (d) Approaching an anchorage and navigating in narrow waters. (e) Making landfall or proceeding along a coast in thick and clear weather. (f) Navigation and voyage planning in all conditions by plotting courses within restricted waters, in restricted visibility, in traffic separation schemes and in areas of intensive tides. (g) Use of all appropriate publications on tides and currents and to calculate tidal conditions at any given time of any given standard port. (h) To answer any questions on above, which the examiner deems necessary.

Time : 3 hour Marks : 150

3. CONSTRUCTION AND STABILITY

(a) The candidate will be expected to show his practical acquaintance with midship section of a fishing vessel and longitudinal and transverse framing, Beams and beam knees, watertight, bulkheads, Hatchways and closing appliances, Methods of maintaining watertight integrity, Freeing ports, rudders, Steering gearshell and deck plating, Bilge Keels, Double bottoms and peak tanks, Bilges, Stern frames Sounding pipes, Air pipes, ventilators, General pumping arrangements, the stiffening and strengthening to resist panting pounding and longitudinal stresses. (b) Causes and simple methods of prevention of corrosion in a ship's structure excluding cathodic protection (c) General ideas on welding, riveting and turning and the precautions to be taken when such processes are carried out on board fishing vessel. (d) Knowledge of the following as related to fishing vessels. (i) Life saving appliances (ii) Fire appliances (e) Determination of the position of the centre of gravity of a ship for different conditions of loading and ballasting. The effect on the position of the centre of gravity of adding, removing, shifting or suspending weights. Transverse metacentre, metacentric height. Initial stability and its limitation to small angles of inclination. Effect of a shift of a shift of cargo or solid ballast. (f) Changes of trim and draught due to loading discharging and shifting weights. Simple calculation. (g) Basic knowledge of IMCO recommendations concerning stability of fishing vessels and use of the stability data provided on board. (h) The loading and securing of catch on board ships, including fishing gear. (i) Loading and discharging operations with special regards to heeling moments due to gear during fishing operations. (j) General knowledge of the measures designed for the protection of the crew on decks, superstructure decks, at deck opening and on stairways and ladders.

Time : 2 hours Marks : 100

4. NAVIGATIONAL AIDS

(a) Magnetic Compass:- A simple knowledge of the meaning hard and soft iron. Simple magnet, magnetic induction. The earth's magnetic field horizontal and vertical components, setting of compasses with, particular reference to the proximity of magnetic material and electrical appliances. (b) Electronic Navigational Aids (i) Radar description and principle of radar. Its use as an anticollision device and navigational aid and an appreciation of its limitations, Radar plotting. (ii) Decca-An understanding of the general principles, accuracy, errors and limitation. (iii) Echo sounder Description of the general purpose navigation echo sounding system, and the special electronic aids used for fishing purposes.

PART-B

ORAL

In addition to the syllabus for the Mate of fishing vessel examination candidates must understand and give satisfactory answers on the following subjects:-

(a) Getting under way. Berthing and unberthing under various conditions of wind and tide. (b) Tending a vessel at anchor mooring and unmooring (c) How to keep a ship head to sea in heavy weather, if dismasted or with engines broken down. Means of lessening drift and use of oil. (d) Maneuvering the vessel during fishing separation with special attention to shooting and hauling nets. (e) Precautions in manoeuvring for launching boats or lifeboats in bad weather and methods of taking on board survivors procedures from lifeboats or life rafts. Man over board procedures. (f) Importance of navigation at reduced speed in shallow waters and in narrow channel to avoid damage caused by own ship's bow/stern wave. (g) Organisation of fire drills, classes and chemistry of fire, use of fire fighting equipment. (h) Action to be taken prior to and after

grounding, floating a grounded vessel with or without assistance. (i) Measures for the protection and safety of crew in emergencies. Abandoning ship. (j) Action to be taken if a vessel has sprung a leak, precautions when beaching a vessel. (k) The rigging and use of jury rudder. (l) How to throw a cast of the deep sea lead in heavy weather. (m) Effects of screws on steering of a vessel. Manoeuvring a vessel in rivers and harbours. (n) What is to be done according to the Act in cases of death, injury, ill-treatment, punishment inflicted on board and casualty to a vessel. Return of a list crew, agreements, accounts of wages or shares and certificates of discharge as applied to fishing vessels. (o) Knowledge of the MS Act and International conventions to the extent applicable to fishing vessels. (p) Any other practical questions relating to the duties of Skipper of a fishing vessel which the Examiner may think necessary. **PART C SIGNALS** 1. To send and receive signals:- (a) Semaphore up to eight words per minute. (b) Morse code by flash lamp up to six words per minute (c) International-code of signals 2. Use of radio telephony equipment on board a fishing vessel for transmission and reception of navigation warning, urgency and distress messages in emergency.

SYLLABUS OF SKIPPER OF FISHING VESSEL GRADE I

PART A

Time : 3 hours Marks : 200

1. PRACTICAL AND PRINCIPLES OF NAVIGATION

Syllabus for this examination shall be the same as prescribed in practical and principles of Navigation for Skipper of fishing vessel grade : II Time : 2 hours Marks : 150 **2. CHART WORK** The syllabus for this examination shall be the same as prescribed in chart work for skipper of Fishing vessel Grade : II

Time : 3 hours Marks : 150

3. CONSTRUCTION AND STABILITY

In addition to the syllabus prescribed for Skipper of fishing vessel grade II the candidate shall be expected to show his practical acquaintance with - (a) Hydrostatic and stability data and its use for determining the stability of a fishing vessel and its compliance with IMCO (b) Fire fighting appliances and arrangements to arrest the spread of fire. (c) Life saving appliances. (d) Design and construction aspect incorporated to ensure seaworthiness of a fishing vessel when external forces such as the due to particular fishing methods, severe wind and rolling; water on deck, flooding of fish hold etc, are experienced. Advantages of bow height. (e) Inclining tests (f) Inspection and maintenance of fishing vessels and their equipment including hull, bulkheads, double bottom, deep and peak tanks, bilges, pipelines, rudder anchor and cables. Drydocking routine, general repairs. (g) Properties and uses of paints, methods of corrosion control. (h) General knowledge of propulsion machinery and deck machinery including winches, windlass, steering gear, fire pumps etc. general knowledge of marine engineering terms.

Time : 2 hours Marks : 100

4. NAVIGATIONAL AIDS

(a) The earth's magnetic field, poles and equator. The earth's total magnetic force, angle of dip, horizontal and vertical components. (b) Deviation, its cause and effect. An understanding of the effect of semi-permanent and induced magnetic field on the deviation of the compass. The means used to compensate for these effects. (c) Setting of magnetic compasses with reference to

proximity of magnetic material and electrical appliances. Precautions to be taken with electric wiring in vicinity of the compass. (d) To find the magnetic bearing of a distant object from compass bearings taken on equidistant heading construct a table of deviations. (e) The principle of the free gyroscope, Tilt and drift, precession, Control and damping. Correction for latitude, Course and speed error, Care and maintenance of different types of compasses, Auto pilot, repeaters and course recorders. (f) The practical application of electronic and radio aids to navigation. (Dacca, Echo sounder, Radar Direction Finder). Appreciation and interpretation of data. Position fixing, fixed and variable errors, area of probability. The use of radar as an aid to collision avoidance.

PART B

ORAL

The syllabus for this part shall be the same as prescribed for the 'B' orals, for the Skipper of fishing vessel Grade II. The candidates shall be required to show a more thorough understanding of the subject than that at the level of Skipper of fishing vessel Grade II. **PART C SIGNALS** The syllabus in this part shall be the same as prescribed in Signal examination for Skipper of fishing vessel grade-II.

[No.SW/5-MSR (14)/82-MA]. J.C. PANT, Under Secy.]