রেজিস্টার্ড নং ডি এ-১

বাংলাদেশ গেজেট

অতিরিক্ত সংখ্যা

কর্তৃপক্ষ কর্তৃক প্রকাশিত

সোমবার, সেপ্টেম্বর ২৯, ২০০৩

Government of the People's Republic of Bangladesh

Ministry of Shipping

Notification

Dated, 28 September, 2003/13 Ashwin, 1410

S.R.O. No. 286 Law/2003—In exercise of the powers conferred by section 95 and section 403 of Bangladesh Merchant Shipping Ordinance, 1983 (XXVI of 1983), the Government is pleased to make the following rules, namely—

1. **Short title, commencement and application.**—(1) These rules may be called the **Bangladesh Fishing Vessels and Deck Officers' Certification Rules, 2003.**

(2) These rules shall come into force on such date as the Government may, by notification in the official gazette, appoint.

(3) These rules shall apply to the Fishing Vessels and the Deck Officers working on board the fishing vessels.

2. **Definitions.**—Unless there is anything repugnant in the subject or context, in these rules—

(a) **"Certificate of Competency"** means a certificates issued by the Director General under rule-5 authorising the holder thereof to serve on board the fishing vessels in the capacity as stated in the certificate ;

(b) **"Chief Nautical Examiner"** means the Chief Nautical Surveyor, Department of Shipping or any other person appointed by the Government in this behalf to act as Chief Nautical Examiner for examinations conducted under these rules ;

(c) **"Director General"** means Director General, Department of Shipping ;

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(d) **"Examinations"** means any examination (written, orals, practical or signals) or any part thereof under rule 6 ;

(e) **"Nautical Examiner"** means Nautical Surveyor, Department of Shipping or any other person appointed by the Government in this behalf to act as Nautical Examiner for examinations conducted under these rules ;

(f) **"Economic Zone"** means the Zones declared under sub-section (1) of section 5 of the Territorial Water and Maritime Zone Act, 1974 (XXVI of 1974) ;

(g) **"Fishing Vessel"** means fishing vessel as defined in section 2 clause (16) of the Ordinance ;

(h) **"Sea-service"** means the employment on board a vessel duly recorded in the "Certificate of Discharge for Fishing Vessels" and supported by Testimonials under rule-14 ;

(i) **"Watch-Keeping Service"** means the service on board a fishing vessel during which the deck officers are in effective charge of Navigational watches on the Bridge of the fishing vessel under rule-20 ;

(j) ***"IMO"*** means International Maritime Organization ;

(k) **"Convention"** means the Convention on Standard of Training and Certification for Watch-keeping of Fishing Vessel Personnel as adopted by IMO ;

(l) **"Ordinance"** means Bangladesh Merchant Shipping Ordinance, 1983 (XXVI of 1983) ;

(m) **"Deck officers"** means officers working in the deck department on board the fishing vessel ;

(n) ***"Form"*** *means forms of these rules* ;

(o) **"Appendix"** means appendix of these rules ;

(p) **"Syllabus"** means the syllabus of the examination described in Appendix-B ;

(q) **"Part"** means any part i.e written part or oral part or signal part of the syllabus ;

(r) **"Medical officer"** means a registered medical officer.

3. **Required number of deck officers on board the vessels.**—(1) Subject to the proviso of section 400(1) of the Ordinance, the fishing vessels of various *sizes and of their operating ranges shall requires* such number of deck officers as shown in the table below :

TABLE

Required Certificated officers Considering the Length of Vessel & Operating Area.

Fishing Area	*Length of Vessel*	Min. No. of Certificated Officers to be carried.	
		Fishing Vessel Skipper	Fishing Vessel Mate
Operating within Economic Zone	Unlimited	1	1
Unlimited	Less than 45 M	1	2
	45 M or more		

(2) The Director General shall issue a "Minimum Safe Manning Certificate" to each fishing vessel in form FVDOCEF-4 of Appendix-C to *ensure the requirements under sub-rule* (1).

(3) No fishing vessel shall be allowed to proceed for sea voyage unless she fulfils the requirements under this rule.

4. **Dispensation.**—(1) Under the circumstances as stated in clause (a) and (b) of sub-section (4) of section 83 of the ordinance, the Director General may relax the requirements of Certificate of Competency in respect of a deck officer for a period not exceeding three months in a particular capacity.

(2) A dispensation granted under sub-rule (1) shall be cancelled by the Director General with immediate effect if properly Certificate deck Officer submits an application for employment for the post.

(3) Despite anything contained in sub-rule (1), no dispensation shall be granted to any person having no certificate of competency to fill-up the post of Skipper or Mate for a sea going fishing vessel.

(4) Dispensation under sub-rule (1) shall not be granted unless the person applying for the dispensation shall—

(a) submit an application in plain paper to the Director General with *such fees as fixed by the Government in this* behalf ;

(b) complete the following courses :

(i) Fire Fighting at Sea (FF) ;
(ii) Proficiency in Medical Care (PMC) ;
(iii) Personal survival Techinique & Social Responsibility *(PST&SR)* ;
(iv) Proficiency in Survival Craft & Rescue Boat (PSC&RB) ;
(v) Global Maritime Distress & Safety Signal (GMDSS) ;
(vi) Radar Observation Course- Automatic Radar Plotting Aid (ROC-ARPA) (Operation level) ; and

(c) qualify an oral test conducted by Director General or by such examiner as approved by Director General.

5. **Certificate of competency.**—(1) There shall be two classes of certificate of competency for the deck officers of a fishing vessel, such as—

(a) Fishing Vessel Skipper Certificate and

(b) Fishing Vessel Mate Certificate.

(2) No certificate of competency under sub-rule (1) shall be issued to any person unless—

(a) he qualifies the examinations ; and

(b) he fulfills the requirements stated in Appendix-A ;

(c) he qualifies the eye test under rule-11 ;

(d) he posses the certificate of medical fitness under in rule-12 ;

(e) he posses the certificates of ancillary courses stated in rule-9.

(3) The certificate of competency issued, in form FVDOCEF-5 of Appendix-C, under rule-5 shall be deemed to be issued under the convention.

6. **Examinations.**—(1) There shall be following two types of examinations for the deck officers of a fishing vessel, such as

(a) Fishing Vessel Skipper Certificate Examination with the syllabus described in **Appendix-B**

(b) Fishing Vessel mate Certificate Examination with the syllabus described in **Appendix-B.**

(2) All Examinations shall be held on such date, at such time and in such place as may be determined by the Director General.

(3) The Total Time for each written examination of any subject shall be three hours and the total Marks shall be one hundred (100).

(4) An application in form FVDOCEF-2 of Appendix-C for appearing the examination is required to be submitted to the Chief Nautical Examiner with such fees and documents as may be determined by the Director general.

(5) An application may be submitted to appear the examination of all written subjects in the first attempt and in the subsequent examinations in one or more than one written subjects, or of any part (written or orals or signals).

(6) If any person qualifies the examination of—

(a) any written subject, or

(b) any part thereof (written of orals or signals) ;

he shall not be required to appear the examination of the same subject or part within three years from the date of publication of the result.

(8) A record of examination result is required to be supplied with the person who appeared such examination and this record of result shall be produced with the application for appearing subsequent examination.

7. **Requirements to sit for Examination.**—(1) Every person who wants to sit for any examination under rule 7(1) shall fulfill the requirements mentioned in of the **Appendix-A**

(2) Despite anything contained in sub-rule (1), any person who passed out as regular cadet after completion of Pre-sea Training Course in the relevant department from Marine Fisheries Academy, Chittagong, Bangladesh, shall have approved sea-service of not less than 12 months to appear in the Fishing Vessel Mate Certificate Examination.

(3) Despite anything contained in Appendix-B, any person who passed out as regular cadet after completion of—

(a) Pre-sea Training (graduation) Course in Navigation from Marine Fisheries Academy, Chittagong, Bangladesh, or

(b) Pre-sea Training (graduation) courses with similar curriculum from such other similar institutions as may be approved by the Director General ;

need not to appear the examination of two written subjects viz, (i) Mathematics, and (ii) Applied Science, for getting Fishing Vessel Mate Certificate.—

8. **Passing Standard of Examinations.**—The passing standards of the following examinations shall be as below—

A. Fishing Vessel Mate Certificate Examination :

(a) Part-I : Written :

(i) Coastal Navigation—70 %

(ii) Practical Navigation—70 %

(iii) Principles of Navigation—60 %

(iv) Fishing Vessel Construction & Safety—50 %

(v) Meteorology & Oceanography—50 %

(vi) Marine Fisheries knowledge—50 %

(vii) Fishing Operation & Technique—50 %

(viii) Applied Science—50 %

(ix) Mathematics - 50 %

(b) Part-II : Orals : 70% Marks.

(c) Part-III : Signals : 90% Marks.

B. Fishing Vessel Skipper Certificate Examination :

(a) Part-I : Written :

(i) Navigation and Navigational Aids—70%

(ii) Engineering knowledge and Refrigeration—50%

(iii) Marine Fisheries Business & Laws—50%

(iv) Maritime Fishing Technology—50%

(b) Part-II-Orals : 70% Marks.

9. **Ancillary Courses.**—(1) There shall be the following ancillary courses, namely

(a) **Basic Courses :**

(i) Basic First Aids At Sea (BFAS)

(ii) Fire Prevention and Fire Fighting (FPFF)

(iii) Personal Survival Technics (PST)

(iv) Personal Safety and Social Responsibility (PSSR)

(b) **Advanced Courses :**

(i) Proficiency in Medical Care (PMC)

(ii) Advanced Fire Fighting (AFF)

(iii) Proficiency in Survival Craft & Rescue Boat (PSC-RB)

(iv) Radar Observation Course-Automatic Radar Plotting Aids (RO..-ARPA) (Operation level)

(v) Global Maritime Distress and Safety Signals (GMDSS)

(vi) Efficient Deck Hand (EDH)

(2) The certificates of the courses mentioned in sub-rule (1) shall not be acceptable unless they are awarded by such Maritime Academy or Institution as may be approved by the Director General.

10. ~~(10)~~ **Forms and Certificates.**—The forms which are not prescribed in these rules shall be determined by the Director General.

11. ~~(11)~~ **Eye-sight Test.** —(1) The Eye-sight Test shall be conducted by such Nautical Examiner as may be determined by the Director General.

(2) The eye-sight test shall be conducted in such manner as may be determined by the chief nautical examiner.

12. **Certificate of Medical Fitness.** —A Certificate of Medical Fitness shall not be acceptable unless issued by such Medical Officer as determined by the Director General.

13. **Validity of Competency Certificate and Revalidation:**—(1) The competency certificate issued under rule 5 shall be used to serve on board the fishing vessels for five years.

(2) After expiry of the period of five years, a Competency Certificate may be revalidated by the Director General upon an application on the part of holder of the competency certificate.

(3) The Director General shall not revalidate the competency certificates—

(a) unless the holder thereof has a valid Certificate of Medical Fitness issued by the Medical Officer;

(b) unless the holder thereof has—

(i) experience of sea-service for a period not less than twelve months within last five years; or

(ii) experience of continuous sea-service for a period not less three months just before the expiry of the validity of the competency certificate; or

(iii) experience of service for a period not exceeding twenty four months in a shipping or Fishing company, Government or semi-government shipping organization within five years; or

(iv) completed such a refresher course as may be approved by the Director General.

14. **Sea-services and Assessment of Sea-services.**—(1) For the purpose of assessment of the sea-serivices the Chief Nautical Examiner shall, upon an application in form FVDOCEF-1, of Appendix C, consider—

(a) the Discharge Certificate for Fishing Vessel issued by the appropriate authority; and

(b) the Testimonial of sea-services.

(2) The Chief Nautical Examiner shall assess the sea-services on the following principles :

(a) one day service on board at sea shall be treated as one day sea-service;

(b) two days Service on board a ship under construction, modification or repair shall be treated as one day sea-service but under this clause the assessed sea-service shall not be more than 30 days;

Provided that the sea-services assessed under this clause shall not be taken into account unless the concerned deck officer—

(i) sails on board the ship after such construction, modification and repair; and

(ii) continues with the service on board that ship;

(c) no sea-service shall be considered if the ship laid-up idle in port for a period exceeding 60 days without reporting to the Director General;

(d) no sea-service shall be credited unless the concerned deck officer sails on board the ship he is employed for.

(3) At least fifteen days before the examination, an application for assessment of sea-services is required to be submitted to the Chief Nautical Examiner with the documents stated in sub-rule (1).

15. **Conversion of Certificate.**-(1) Any person having the Fishing Vessel Skipper Certificate under these rules shall be entitled to have Provisional Pass Certificate (PPC) of Deck Officer Class-3 under Bangladesh Merchant Shipping Officers' and Ratings' Training, Certification, Employment, Working-hour and Watch-keeping Rules if he—

(a) qualifies the examination of the following subjects, namely

(i) General Ship Knowledge (GSK); and

(ii) Cargo Operation & Stability (CO & S);

(b) completes sea-services for at least 12 months on board a fishing vessesl;

(2) After completion of at least six months sea-services on board a Merchant ship, any person having the Provisional Pass Certificate (PPC) of Deck Officer Class-3 may apply to the Director General to exchange the Provisional Pass Certificate (PPC) of Deck Officer Class-3 and the Director General shall, upon such application, issue the original Certificate of Deck Officer Class-3.

(3) Any person having the certificate of Deck Officer Class-3 under Bangladeh Merchant Shipping Officers' and Ratings' Training, Certification, Employment, Working-hour and Watch-keeping Rules, 2000 shall be entitled to have the Provisional Pass Certificate (PPC) of Fishing Vessel Skipper Certificate under these rules if he qualifies the examination of the following fishing vessel subject :

(i) Marine Fisheries Business & Law;

(ii) Maritime Fishing Technology; and

(iii) Engineering knowledge & Refrigeration

(4) After completion of at least twelve months sea-services on board a fishing vessel, any person having the Provisional Pass Certificate (PPC) of Fishing Vessel Skipper Certificate may apply to the Director General to exchange the Provisional Pass Certificate (PPC) of Fishing Vessel Skipper Certificate with the original fishing vessel Skipper certificate and the Director General shall, upon such application, issue the original of Fishing Vessel Skipper Certificate.

16. **Recognition of Certificates of Competency, and of Training from Foreign Countries.**—(1) The Director General may, in form FVDOCEF-3 of Appendix-C, recognize the certificates of competency obtained from outside Bangladesh as equivalent to the certificate of competency issued under these rules if-

(a) the country of whose organization or authority offered the training course, and issued the competency certificates is a signatory of the Convention;

(b) the organization or the authority which offered the training course and issued the competency certificate fulfills the requirements enunciated in the convention relating to training, competency certificates, recognition thereof, and maintaining records;

(c) the organization or the authority which offered the training course and issued the competency certificate must assure that if there is any change in their training program and certification procedure, it shall inform the same to the Director General immediately;

(d) in the case of management level certification, the candidates must have knowledge regarding Maritime laws in Bangladesh; and

(e) the certificate holder must possesses the medical fitness as per these rules.

(2) When the certificate obtained from outside Bangladesh is under process of recognition, the Director General may recognize the certificate temporarily for a maximum period of three months.

17. **Compulsory Training Courses Before Joining on Board a Fishing Vessel.**—(1) Every Deck Officer shall complete an approved familiarization training course regarding his duty and responsibility before taking charge of a duty on board a fishing vessel.

(2) Before attending the duty of safety and pollution control, every deck officer shall possess the certificate of the following courses :

(i) Personal survival technique;

(ii) Fire prevention and fire fighting;

(iii) Basic first aid at sea; and

(iv) Personal safety and social responsibility.

18. **Training, evaluation and quality control.**—(1) The Director General or any other officer nominated by the Director General, shall monitor time to time the training programme and its evaluation, working of the institutions according to the rules of the convention.

(2) The Government shall, by notification in the official gazette, form a committee with such number of professional experts as may be necessary to evaluate the functions under sub-rule(1) in every five year.

(3) The committee formed under the sub-rule (2) shall submit a report to the Government in every five-year.

19. **The Responsibility of Fishing Vessel Owner Company, Skipper.**—(1) The owner of the vessel shall ensure that :

(a) every officer and crew employed on board the vessel shall have the Competency Certificate issued under these rules;

(b) required numbers of manpower on board the vessel as prescribed in the Safe Manning Certificate' issued by the Director General have been engaged;

(c) the records relating to curriculum vitae, experience certificates, training certificates, physical fitness certificates, Competency Certificates of the Deck Officers have been maintained and kept on board and in the office.

(d) every Deck Officer employed on board the vessel has been acquainted with the internal arrangement and different criteria of the vessel.

(e) every Deck Officer employed on board the vessel co-operates each-other at the time of emergencey.

(f) the skipper employed on board the vessel is acquinted with the materials and equipments on board the vessel, method of planning, regulations of the company and other arrangements.

(2) The skipper shall be liable to inform and make familiar with the materials and equipments on board the vessel, method of planning, regulations of the company and other arrangements to each newly appointed Deck Officer and the skipper shall also keep record of those information in the official log.

20. **Watch Keeping and Voyage Planning.**—(1) The Skipper shall prepare the voyage planning of the vessel and keep ready for inspection of the competent Authority.

(2) The Skipper shall assure and determine the safe Navigational watch keeping of the vessel while at sea voyage or at port premises or at an anchor.

(3) The Skipper shall give direction to the Deck officers to maneuver and operate the ship safely.

21. **Repeal and Savings.** —(1) "Bangladesh Fishing Vessel (Deck Officers) Certification Rules, 1992," hereinafter called repealed rules, is hereby repealed after these rules come into force.

(2) Despite anything contained in sub-rule (1), anything done or any measures taken under the repealed rules shall be deemed to have been done and taken under these rules.

(3) Despite anything contained in sub-rule (1) and (2), the holder of Competency Certificates issued under the repealed rules, shall be entitled to get following equivalent Competency Certificate under these rules :

Certificate of Competency issued under repealed rules.	Certificate of Competency issued under these rules.
1. Certificate of Fishing Vessel Deck Officer Class-3.	1. None
2. Certificate of Fishing Vessel Deck Officer Class-2.	2. Certificate of Fishing Vessel Mate.
3. Certificate of Fishing Vessel Deck Officer Class-1 (Skipper.)	3. Certificate of Fishing Vessel Skipper.

(4) Despite anything contained in sub-rule (1) and (2), the holders of Certificate of Fishing Vessel Deck Officer Class-3 issued under the repealed rules shall be valid upto 31st December, 2005; and the holders of the same shall be entitled to get the Certificate of Fishing Vessel Mate under the these rules if within this period he—

(a) qualifies the examination of the following Written Subjects :
  (i) Practical Navigation;
  (ii) Principles of Navigation;
  (iii) Marine Fisheries Knowledge;
(b) completes the following training Courses :
  (i) Advanced Medical Care;
  (ii) Global Maritime Distress and Safety Signals [GMDSS (GOC)].

(5) If the holder of the Certificate of Fishing Vessel Deck Offficer Class-3 issued under the repealed rules fails to qualify the examination of written subjects and fails to complete the training courses mentioned in sub-rule (4) within 31st December, 2005, his Certificates will be endorsed by the Director General to allow him only to serve as Junior Mate.

By order of the President,
জুলফিকার হায়দার চৌধুরী
সচিব।

APPENDIX-A

Requirements to sit for examination and to get the competency certificate

1. **Fishing Vessel Mate :**

A Candidate shall fulfill the following Conditions :

(a) He shall be at least 20 years of age;

(b) He shall have a certificate of pre-sea training as a cadet from the Marine Fisheries Academy, Chittagong, Bangladesh or equivalent per-sea training as approved by the Director General;

(c) He shall have approved sea service of not less than 24 months on board a fishing vessel as a Deck-cadet, of which at least 6 months must have been spent in the bridge watch keeping;

(d) He shall have a certificate of attending *preparatory course* applicable for Fishing Vessel Mate and Fishing Vessel Skipper examination as approved by the Director General;

(e) He shall have completed the following courses—
  (i) Proficiency in Medical Care (PMC)
  (ii) Advanced Fire Fighting (AFF)
  (iii) Proficiency in Survival Craft & Rescue Boat (*PSC-RB*)
  (iv) Radar Observation Course-Automatic Radar Plotting Aids (ROC-ARPA) (Operation level)
  (v) Global Maritime Distress and Safety Signals (GMDSS) (Operation level)
  (vi) Efficient deck Hand (EDH)

(f) If he has obtained any or *some of the above mentioned* course certificate or certificates during academic pre-sea training courses, he shall get remission from obtaining such certificate further.

(g) He shall have a Certificate of Medical Fitness from any approved Medical Officer.

2. **Fishing Vessel Skipper :**

A Candidate must fulfill the following conditions :

(a) He shall be holder of Fishing Vessel Mate Certificate;

(b) He shall have 24 months approved sea-service on board a sea going fishing vessel in the appropriate capacity after holding Fishing Vessel Mate Certificate;

(c) He shall have a certificate of Medical Fitness to serve in the deck department, from any approved Medical officer.

3. Special Discretion of the Chief Examiner :

Not withstanding the requirements contained in these rules for the purpose of appearing at the Examination and subject to the provisions of paragraph (b)—

(a) a candidate, who has completed Pre-sea Training from Marine Fisheries Academy, Chittagong, Bangladesh and completed 5 years qualifying sea-service including 1 year as Second-in-Command on board a Fishing Vessel, may be allowed to appear in the Fishing Vessel Skipper Examination;

(b) The provisions of paragraph (a) shall apply to the candidate who completed a qualifying sea-service, required under that sub-paragraph on or before 31st December, 2005, these candidates shall be allowed to appear at the same examination of the respective grade upto 31st December, 2007.

APPENDIX-B

SYLLABUS FOR COMPETENCY CERTIFICATE OF EXAMINATION

1. FISHING VESSEL MATE (FVM)

1. 1. WRITTEN SUBJECTS :

1.1.1. COASTAL NAVIGATION.

1.1.2. PRACTICAL NAVIGATION.

1.1.3. PRINCIPLES OF NAVIGATION.

1.1.4. FISHING VESSEL CONSTRUCTION & SAFETY.

1.1.5. METEOROLOGY AND OCEANOGRAPHY.

1.1.6. MARINE FISHERIES KNOWLEDGE.

1.1.7. FISHING OPERATION AND TECHNIC.

1.1.8. APPLIED SCIENCE.

1.1.9. MATHEMATICS.

1.2. ORALS.

1.3. SIGNALS.

1.1.1. COASTAL NAVIGATION : SYLB/FVM

(a) Given variation and the deviation of the magnetic compass or Gyro error, to convert true courses into compass courses and vice-versa; Given a sample of deviations, to extract the deviation thence to convert true courses into magnetic and compass courses; To find the compass courses between two positions; the effect of current on speed of the ship and direction and leeway; Given compass course steered, the speed of the ship and direction and rate of the current, to find the true course made good; To find the course to steer allowing for a current; Given the course steered and distance run, to determine the set and rate of the current experienced between two positions;

(b) To fix a position on a chart by simultaneous cross bearings, by bearing and range, by positional information from Radio aids to Navigation or by any combination, applying the necessary corrections, the use of lattice charts.

(c) 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 off a given point; The use of position lines obtained by any method including terrestrial position lines and position circles; Use of four point bearing and transit bearings.

(d) Elementary knowledge of passage planning and execution; Landfalls in thick and clear weather: The selection of suitable anchorages, approaching anchorage and entering narrow channel waters; The use of clearing marks and horizontal and vertical angles.

(e) To find the time and height of high and low water.

1.1.2. **PRACTICAL NAVIGATION :** **SYLB/FVM**

(a) Use of Traverse Table.

(b) To find the position of ship at any time, utilizing the compass course variation, deviation, distance recorded in log, estimated speed, allowing for the effect of wind and current, if any.

(c) To find the latitude by meridian altitude of a heavenly body, on the meridian.

(d) To obtain a position by the use of two or more bearing with or without run and zenith distance.

(e) To find the true bearing of a heavenly body; and thence find the compass error and the deviation and variation of the magnetic compass.

(f) To calculate the approximate altitude for setting on the sextant; and to obtain the meridian altitude of a heavenly body.

** ** **

1.1.3. **PRINCIPLES OF NAVIGATION :** **SYLB/FVM**

(a) The shape of the earth. Poles, equator, meridians, parallels of latitude. Position by latitude and *longitude, direction, bearing, distance*, units of measurement, Difference of latitude, difference of longitude, departure, mean latitude, difference of meridional parts and the relationship between them. Great circles, great circle track and distance, small circles on a sphere.

(b) The celestial sphere, definitions of the celestial sphere, apparent motion on the celestial sphere; Declination, azimuth, Siderial hour angle; The position of a body on the celestial sphere; azimuth with altitude or declination with siderial or local hour angle. The rising culmination and setting of heavenly bodies.

(c) *Solar System, planetary motion.* Earth's rotation and movement in orbit; mean sun, ecliptic, first point of aries; Equinox and solstice, sunrise, sunset, twilight.

(d) Time; Greenwich and other standard time, zone time, mean time, apparent time, siderial time, equation of time, relationship between longitude and time.

(e) Local hour angle of a heavenly body in time and arc. Greenwich hour angle of sun, moon, planet, Aries.

(f) Correction of sextant altitudes; dip, refraction, horizontal parallax, parallax in altitude, semi-diameter and augmentation.

(g) *Geographical position of a heavenly body.* A circle of position and its practical application (i.e., position line), intercept.

(h) simple properties of Mercator and Gnomonic charts; latitude and longitude scales, measurement of distance. Rhumb lines. Great circles and composite great circle tracks.

(i) Principle of position fixing by measurement of difference of distance from two or more fixed points. The hyperbolic latice on navigational charts.

(j) Theoretical consideration of modern navigation systems like GPS.

1.1.4. **FISHING VESSEL CONSTRUCTION & SAFETY :** **SYLB/FVM**

(1) **Construction :**

(a) General difinition of main dimensions of a ship. The names of the principal parts of a fishing vessel.

(b) Knowledge of longitudinal and transverse framing, beams and beam knees, watertight bulk heads & hatchways, freeing ports, water tight doors.

(c) Steering gear, Rudder, Propeller, Stern frame, Anchor & Cables;

(d) Shell & deck plating, bilge keels, double bottoms and peak tanks; General piping arrangements, Sounding pipes, Air pipes, Ventilators;

(e) Stiffening and strengthening to resist parting, pounding and longitudinal stresses;

(2) **Stability :**

(a) Laws of floating body-Archimedes Principle; Meaning of displacement, deadweight, Block Co-efficient, Freeboard; Buoyancy and Reserve Buoyancy;

(b) Centre of Gravity, Centre of buoyancy, Metacentric height, Righting lever and Righting Moment, Stable, unstable and neutral equilibrium.

(c) Effect of density of water on draught and freeboand fresh water allowance.

(d) Determination of the position of centre of gravity of a ship for different conditions of loading and ballasting. Effect of adding, removing, shifting, suspending weights on ship's centre of gravity-Centre of buoyancy-meta centric height and list.

(e) Use of stability by Hydrostatic data as supplied to fishing vessels and calculation based thereon.

(3) Seamanship & Safety :

(a) General knowledge of the measures designed for the protection of the crews on the deck, superstructure deck, at deck opening and on stair ways and ladders.

(b) The loading and securing of fish-catch on board the ship including fishing gears.

(c) Design and constructional aspects incorporated to ensure seaworthiness of a fishing Vessel when external forces are experienced.

(d) Effect of external forces (like fishing gear, fish catching, obstructions on the sea-bed, etc.) over the ship, Effect of wind-current-swelling-water on deck-flooding of fish hold during severe weather over the ship.

(e) Use of anti-swelling devices (Stabilizer).

(f) Inclining tests, Advantages bow height.

(g) Dry docking; Routine of dry docking; reasons, procedure and precautions *of dry docking.*

(h) Causes and simple methods of prevention of corrosion on the ship's structure, excluding cathodic protection. Properties & uses of paints.

(i) General idea of welding, riveting and turning; precaution to be taken during welding on board.

(j) Fire fighting Appliances for fishing Vessel; arrangements to arrest the spread of fire.

(k) Maintenance of fishing Vessel; Safety care and maintenance of all life saving appliances; light and sound signals; knowledge of safe practices to be followed while fishing at sea.

1.1.5 METEOROLOGY & OCEANOGRAPHY:

(a) Theories of Measuring wind pressure and use of Standard Datum Knowledge about Aneoroid and precision Aneoroid Barometer and Barograph.

(b) Determine the Temperature of Sea and wind; adoptation of awareness. Theory of Hygrometer. Determine the Relative Humidity. Maintenance and take care of the Instruments.

(c) Beaufort Wind Scale. Way of determining the Direction and Velocity of Wind at Sea by considering the criteria those influence the nature of the Sea.

(d) General pressure and wind distribution—The daily and seasonal change of Atmospheric pressure. Prevailing wind. The local and zonal effect of Temperature reflection and Temperature application, Land and sea breezes, katabatic winds; Monsoons, causes and effects of Monsoons.

(e) Knowledge of the development and decay of Tropical Revolving Storms, their location, their naming, seasons, tracks and troughs associated weather : action to avoid a TRS (northern hemisphere and southern hemisphere).

(f) Main main pressure related atmosphere and characteristic. Anticyclone, Low pressure, permanent and semi permanent Deep-pressure and Low-pressure. Relation between Atmosphere and Pressure distribution. Air Mass and its characteristic. Buys Ballot's Law.

(g) The use of criteria of Atmosphere in comparison with the recorded Atmospheric pressure at a station by Barometer.

(h) Water vapour in the atmosphere, Evaporation, condensation, rain, Meaning of : Saturation, Relative Humidity, Dew point. Balancing in the Atmosphere, Lapse rate. Production and Classification of Clouds ; Basic knowledge of Frost, Dew and Haze.

(i) Knowledge of the weather messages available for shipping as circulated from Meteorological Department. Coding & Decoding of forecasts by the use of 1st, 2nd and 3rd chapter of Code-Decode Books of Meteorological Department. Knowledge about the structure of the weather reporting system. Selector Ship, Weather ship, Ship Station.

(j) Knowledge and use of synoptic chart and to forecast the probable changes over sea areas. Weather routing of shipping.

(k) Principal Ocean Currents, their names and characteristics, cause of ocean currents; gradient currents, seasonal changes in general circulation.

1.1.6. MARINE FISHERIES KNOWLEDGE SYLB/FVM

(1) **Fisheries Biology :**

(a) Fish Morphology : Fish body structure—General Information, division of fish body into parts, external covering shape of fish body and skeleton, functioning of different organs of fish, physical characteristics, measurements of fish and other aquatic organisms.

Classification of Marine Fishes : Marine Fish resources of Bay of Bengal with commercial importance; Principal commercial species of marine fishes with special reference to Crustaceans (Crab, Shrimps, Lobster), Molluses; etc.;

(b) **Fish Ecology** : Conditions of existence of fish; influence of the following factors over the life activity of fish-Temperature, Salinity, Oxygen, Current.

(2) **Fish Handling and Stowage :**

(a) **Hygienic measurement** : Preparation of deck, cleaning and washing of deck—otter board and other fishing material; procedure of fish handling on board after hauling the net, effect of sun and wind on the catched fish on deck. Fish washing- Sorting- Gutting- Filleting; requirements for fish handling premisses. Use of disinfectant, recommended types of disinfectant, recommended levels of application of disinfectant.

(b) **Knowledge of stowage:** Types of stowage—bulk stowage—shelf stowage—box stowage (Thermocole boxing); advantage & disadvantage of different types of stowage. Preparation of fish for stowage, quick stowage- advantage of quick stowage, disinfecting the stowage area. Spoilage of Fish-Factors of fish spoilage, Recognition of fish spoilage, Prevention of spoilage, Importance of cooling in prevention of spoilage.

(c) **Knowledge of preservation** : Application of low Temperature –Icing-Chilling- Freezing; Correct use of ice; assessment of ice requirements; ice chilling of fish in boxes –period of box chilling; Application of high temperature –canning and bottling, boiling of fish—microwave heating; removal of moisture—drying, smoking, salting; marinades, fermented fish products; Freeze-drying. **Grading of Shrimps & Fish-** International count of shrimps, grading of finfish.

1.1.7. FISHING OPERATION AND TECHNIQUE SYLB/FVM

(1) **Fishing Gear and Materials :**

Introduction, Classification, materials used in making fishing gears; materials used in Nets & Ropes; Properties of fibres, construction – thickness- properties of net twine, fishing line & Ropes, Floats, Sinkers & Accessories; properties of floats; types- classifications- uses of floats. Preservation and maintenance of net making materials, trawl nets, otter boards and other fishing gears. Bait, types of baits. Netting Materials: Types of net, mesh size, properties of net, configurations of net fishing gear, manufacturing- lacing-joining-cutting-mending of nets.

Designing of fishing gear : Otter boards-types, uses; **Principle**, designing, mathematical calculation. Designing of Trawl net, taking of trawl net-Head rope-Ground rope-fish bag-trawling wire rope-sweep line-haul-up line-dog chain-wire ropes & cables.

(2) Fishing Methods & Fishing Grounds:

Definition of fishing method, elements of fishing method, methods of fish detecting-fish concentrating-attracting-hunting-Intercepting; **Classification of Fishing Method in the light of harvesting.**

Commercial Fishing Methods in the world in the light of Gear Choice—Towed Gear Fishing Methods-Bottom otter trawling-stern trawling-beam trawling-mid-water trawling. Preparation –operation- shooting- hauling *of otter trawling.* ***Safety precaution*** during trawl fishing. **Advantage and Disadvantage** of stern trawling and beam trawling or side trawling. **Knowledge of** Encircling Gear and Static Gear Fishing Methods such as—Purse seine, Gillnets, Set nets, Traps, Long lining, Pots. Location and size of important commercial **fishing grounds** in the Bay of Bengal; Major Fishing Grounds of the world.

Fish Finder – types according to fishing method, operation and uses.

General knowledge about HACCP (Hazard Analysis Control Critical Point). Specially requirements on board working of Fishing Vessel.

1.1.8. APPLIED SCIENCE : SYLB/FVM

Candidates may be asked to demonstrate their understanding of physical principles by questions involving calculation without proof and by question on the practical application of those principles, particularly in instruments or systems in use at sea.

Candidates will be expected to show understanding and appreciation of physical principles rather than to produce formal, memorised descriptions or *statements of* laws and rules.

(1) (a) Measurement of heat; thermometers; thermocouples; Transference of heat; Conduction, convection, radiation.

(b) Properties of gases; Boyle's Law, charles Law. A simple treatment of isothermal and adiabatic expansion and compression of gases; principles of refrigeration.

(2) (a) Laws of refraction; plane mirror, rotating mirror, spherical mirror.

(b) Laws of reflection; Index of reflection; Total internal reflection, Prisms, thin lenses; a graphical treatment of the formation of images by lenses.

(3) (a) Wave motion; frequency, wavelength and their relationship. Production and propagation of sound.

(b) Effect of wind and temperature on the velocity of sound.

(c) Reflection, Echoes and Doppler effect.

(4) (a) Theory of magnetism. Laws of magnetism. Intensity of magnetisation, permeability, retentivity, hysteresis curves for ferromagnetic material.

(b) Pole strength, field strength, Magnetic moment and couple, deflection of a magnetised needle.

(c) Terrestril magnetism and magnetic elements, Variation.

(5) (a) The nature of an electric current; e.m.f. current, resistance, their effects and relationships, electric potential. Insulators and insulations, electric potentials and currents related electric and magnetic field, Capacitance.

(b) Heating effect of a current; power and its relationship with current and resistance. The magnetic field caused by a current and the resulting effects. The effect on a current-carrying conductor in a magnetic field. Chemical effects, passage of current through a conducting solution.

(c) Primary and secondary cells; Batteries.

(d) Alternating voltages and currents in outlines; frequency and phase relationship, peak instantaneous and r.m.s. Values. Reactance, impedance and power dissipation, Resonance and Rectification.

(e) Simple a.c. and d.c. circuits. Fuses and circuit breaker devices. The effects of open circuits, short circuits and leakage, the effects of dirt and moisture. Principles of Electric Generators and Motors. Outline of shipboard power supplies. Emergency sources. Safety precautions to be observed when handling electrical equipment, including spares carried on board.

(6) Concept of electromagnetic radiation and the need for a high frequency carrier wave. Propagation, polarisation and wave-length/frequency relationship. Ground and sky waves. Functions of typical marine communications transmitters and receivers.

(7) (a) Corrosion, action between dissimilar metals.

(b) Combustion, induced and spontaneous. Flash and ignition temperatures. Explosive mixtures, chemical change due to overheating.

(c) Fire extinguishing, powder, foam, inert gases.

1.1.9. MATHEMATICS SYLB/FVM

(a) Definitions and processes. Theory of indices. Simple equations, problems leading to simple equations. Developments of formula, transposition and evaluation. Fractions. Factors. Simultaneous equations of the first order involving two or three unknowns. Problems leading to simultaneous equations. the solution of the quadratic equation, problems leading to quadratic equations, graphs. Axes of reference. Rectangular and polar Co-ordinates. Construction

and reading of statistical graphs and diagrams. Graps of functions, liner, algebraic and trigonometric 0°-360°, gradien, rate of change, maximum and minimum points. Ratio, proportion and variation; simple problems.

(b) The use of logarithms to any base. Calculations involving multiplication and division by logarithms, powers and roots, exponential equation.

(c) Areas and perimeters of rectangle, triangle and circle. Volume and surface area of wedge, cylinder, sphere and rectangular block and problems thereon.

(d) The construction of plain triangles; congruence of triangles; similarity of triangles. The right-angled triangles. Angle-sum, properties of triangles and polugons. Exterior angle property. Parallel lines and transversal. Properties of circles. Chords and tangents. Angle in a semi-circle; angles subtended by any chord of a circle. Forces, resultant forces and their components. The use of vectors to indicate magnitude and direction; Vector addition, use of the vector triangle. Properties of the eclipse and hyperbolae of navigational importance.

(e) Measurement of angles. Circular measure. Trigonometrical ratios up to one revolution. Haversine. Relationship between ratios. Complementary, Supplementary angles and their ratios. Simple identities and trigonometrical equations. Solution of right-angled and oblique plain triangles including practical problems.

(f) Properties of spherical triangles, Solution of oblique, right-angled and quadrant spherical triangles.

(g) Composition and resolution of forces. Principle of moments. Stress, strain, shear forces and bending moments of simply supported beams with and without load. Simple machines, lever, screw-jack, pulley systems, mechanical advantage, velocity ratio, efficiency. Pressure in liquid; pressure at a depth, thrust.

(h) Composition and resolution of velocities and accelerations. An understanding of Newton's laws of motion, motion under gravity. Work, power, kinetic and potential energy, momentum, friction and co-efficient of friction including simple illustrative calculations.

1.2.10 SYLLABUS FOR ORALS EXAMINATION SYLB/FVM

(1) Meteorological Instrument : To read, understand and make use of meteorological instruments such as Barometer, Thermometer, Hydrometer and Hygrometer.

(2) Azimuth Mirror : To use an Azimuth Mirror for taking bearings.

(3) Sextant : To use a sextant for taking Vertical and Horizontal angles, to read a sextant for

both on the arc and off the arc to find the Index error of esxtant.

(4) Compass : Use of Magnetic Compass, Auto pilot.

(5) Lead line : Marking and use of ordinary lead line.

(6) Handling of vessel : Preparation for getting underway; alongside quays, jetties, other ships, securing to buoys; Effect of propellers on the steering of fishing vessel; knowledge of stopping- going- astern and manoeuvring capabilities of fishing vessel, including turning circles, stopping distance etc.; Man over board.

(7) Duties of watch keeping officer at sea, at anchor, at port.

(8) Anchors and cables, their use and stowage.

(9) A full knowledge of the content and application of the Collision Regulation '72.

(10) Knowledge of the precautions to be observed to prevent pollution of the Marine.

environment ; Basic knowledge of Safety At Sea.

(11) Knowledge of IALA system of Buoyage.

(12) Distress signals ; duties and functions during distress; pilot signals; sound signals;

(13) Use and care of Life Saving Appliances essential for fishing vessel.

(14) Use and care of Fire Fighting Appliances.

(15) Knowledge of the all deck appliances and fishing gears.

(16) The examiner may ask questions from syllabus of written subjects and ancillary courses.

1.3 SYLLABUS FOR SIGNALS EXAMINATION SYLB/FVM

(1) To send and receive signals :

(a) Morse code by flash lamp upto six words per minute.

(b) International code of signals.

(2) Use of Radio Telephony on board a fishing vessel for transmission and receiption of navigating warning urgency and distress message in emergency.

2. FISHING VESSEL SKIPPER. (FVSK)

2.1. WRITTEN SUBJECTS :

2.1.1. NAVIGATION AND NAVIGATIONAL AIDS.

2.1.2. MARINE FISHERIES BUSINESS & LAW.

2.1.3. ENGINEERING KNOWLEDGE AND REFRIGERATION.

2.1.4. MARITIME FISHING TECHNOLOGY.

2.2. ORALS EXAMINATION.

2.1. WRITTEN SUBJECTS : **SYLB/FVSK**

2.1.1. NAVIGATION AND NAVIGATIONAL AIDS :

(1) Navigation :

(a) The earth's Magnetic field, Poles and Equator ; Angle of dip, Horizontal and Vertical Components; Variation and Deviation, Causes and Effects of variation and deviation.

(b) To find the Magnetic Bearing of Distant object from Compass Bearing taken on equidistant headings and construct a Table of Deviations.

(c) The relationship between the Tides and the phases of the Moon.

(d) The interpretation and use of Navigational and Meteorological information's.

(e) Voyage Planning of a Fishing Vessel.

(f) Calculations on Plain sailing, Parallel sailing ; Practical problems on –Mean latitude, Mercator sailing.

(g) From the observation of any heavenly body near the meridian, to find the direction of the position line (P/L) and position through which it passes.

(h) To obtain a position by using line of positions obtained from two or more observation with or without run.

(i) Great Circle sailing, Composite Circle sailing, Use of Gnomonic Chart.

(2) Navigational Aids :

(a) Chronometer :—Use and care of marine chronometer and its errors.

(b) Bearing instruments :—(i) Azimuth mirrors - Construction and uses, procedure of Checking accuracy.

(c) Sextant - Principles of operation and uses ; detection and corrections of *Sextant errors*, Principles and uses of varnier and micrometer Scale.

(d) Magnetic Compass :—Use and care of magnetic compass, magnetic and non-magnetic materials and their effect on compass, Checking of magnetic compass and practical limitations of magnetic compass.

(e) Gyro Compass :—Gyroscope, Principles of free gyroscope. *Tilt and drift*, precession, control and damping ; Correction for latitude ; Course and speed error ; heeling errors ; maintenance - use and care of different types of compasses ; Auto pilot, Repeaters, Course Recorder.

(f) The principle and Application of Radio Electronic Devices of *Navigation* such as - Radio beacon, Radar, Echo Sounder, Radio Direction Finder, Global Position System (GPS).

2.1.2. MARINE FISHERIES BUSINESS & LAW : *SYLB/FVSK*

(1) UN-organizations :

(a) Knowledge of common law, statute law, Regulation, Admiralty court, *Corner's court, Juries ;* Understanding of Plaintiffs, Respondent, Summons, Affidavits. Knowledge about Arbitration-definition, advantage & disadvantage.

(b) Primary knowledge on the role of UN organizations like IMO, ILO, FAO *over fishing vessel* operation and Maritime business.

(c) Simple knowledge about ILO conventions related to Fishing Vessel and Fisherman (such as, Convention Nos. 112, 113, 114, 125, 126).

(d) Knowledge on the chapters on Fishing and Fisheries as covered in the UN convention on the Law of the Sea, 1982, with special reference to - Territorial water, Exclusive Economic Zone, Continental shelf, Coastal state, Landlocked state.

(e) Knowledge about Food law, Safety of food, Composition of food ; Understanding about Codex, Standard documents of *Codex, Specialist* Committees of codex Commission.

(2) International Conventions :

(a) Knowledge of International Maritime organization ; *IMO* conventions as they effect the specific obligations and responsibilities of the Skipper, particularly those concerning safely and the protection of the marine environments. Particular regard shall be paid to the following subjects :

(b) Certificates and other documents required to be carried on board the fishing vessel by international conventions, how they may be obtained and the period of their legal validity.

(c) Responsibilities under the relevant requirenments of the Torremolinos Protocol, 1993.

(d) Responsibilities under the relevant requirenments of Chapter V of the International convention for the Safety of life at Seu, 1974.

(e) Responsibilities under the Annex-I and Annex-v of the International convention for the Prevention of Pollution from ships, 1973, as modified by the protocol of 1978 thereto.

(f) Maritime Declaration of health and requirements of the international health regulations.

(g) Responsibilities under other international instruments effecting the Safely of Fishing Vessel and crew.

(3) Shipping Practices :

(a) Knowledge about classification, Recognized classification societies, character symbols of classification;

(b) Knowledge of Certificates, Form of Certificates.

(c) Knowledge about Registry, Builder's Certificate, Bill of Sale, Certificate of Registry.

(d) Knowledge about Tonnage, Weight Tonnage class, Measurement Tonnage class, Tonnage Mark.

(e) Knowledge about shipping contract, Constitution of contract, FOB & CIF contract, Invoice and consular Invoice; Knowledge of 'Documentary credit system', letter of crtedit, Bills of exchange, Knowledge about charter Parties, Bill of lading, Way bil ;

(f) Knowledge about Maritime Lien, Possessory lien, Freight, General Average.

(g) Knowledge about Marine Insurance and Marine losses ; total loss and Partial loss, constructive total loss, particular average loss, General Average loss, General Average Sacrifice, General Average Expenditure.

(h) Knowlege of Pilotage, Pilotage Districts.

(4) National laws :

(a) Knowledge on Marine Fisheries ordinance, Marine Fisheries Rules of Bangladesh.

(b) Knowledge on Fish & Fish products (Inspection & Quality) control ordinance of Bangladesh with special reference to HACCP (Hazard Analysis Control Critical Point) for quality control on board the fishing vessel.

(c) Knowledge on Merchant Shipping Ordinance of Bangladesh, with special reference to fishing vessel related chapters.

2.1.3. ENGINEERING KNOWLEDGE & REFRIGARATION. SYLB/FVSK

(1) Engineering Knowledge :

(a) Principle of internal combustion engine ; working of 2-stroke Engine & 4-stroke Engine.

(b) Knowledge of fuel oil system, water cooling system.

(c) Reversing a marine diesel engine, reduction gear.

(d) Use of diesel engine for pumps and power generation working.

(e) Principle of boiler ; mountings of boiler.

(f) Knowledge on motors & converters, condensers and evaporators.

(g) Knowledge about fire fighting and fire fighting appliances;
Knowledge of fire detection, fire prevention and fire protection.

(h) Working priciple of steering system.

(i) Bridge Control of Main Engine.

(2) Refrigeration:

(a) Compressors; Principle of refrigeration.

(b) Name of refrigerants and their properties.

(c) Fishing Vessel Refrigeration Plant.

2.1.4. MARITIME FISHING TECHNOLOGY. SYLB/FVSK

(1) Fish Body & Environment :

Fish Body, Fish Behavior, Area of fish: Postmortem changes in fish body; Fisheries and the International environment; Knowledge of water masses and frontal zones; Interrelationship among marine organisms-Food Chain, Productivity of the ocean; Knowledge of fishing resources-characteristics-methods of Investigating-Growth and management: Migration of fish.

(2) Fishing Ground :

Condition to exist, environments: formation, oceanographic structure; Classification of fishing grounds. Major Fishing grounds in the world, Fishing ground surveys-fish school survey-Fishing charts; Obstacles (natural & artificial) to fishing and countermeasures; Fishing grounds in Bay of Bengal.

(3) Fishing Techniques :

(a) *Behavior of fishes, formation of fish school, methods of concentrating fish,* classification of fishing methods; classification of fishing gear;

(b) commercial fishing gears of the world - towed gear-Bottom otter trawling, Bottom pair trawling, Multi-rig trawlin, mid-water trawling- single boat and two boat.

Encircling gear - Purse seining. Static gear- Gillnets, long lines. Mobile gear- Trolling, Harpooing.

(c) Designing of Trawlar, Trawler, Trawl net, Trawl board (otter board).

(d) Fishing Instruments: Electronics in fishing; Principle- Operation- Uses of Fish finder; Tension meter, Trawling speed meter, Under water Telmeter.

(4) Conservation & Principle of Preservation :

(a) **Conservation :** Scientific management and conservation of fisheries by regulating operational time, operational area, operational units; Control of fishing operation during spawning season. Conservation methods in respect of Bangladesh EEZ fisherics water.

(b) **Principle of Preservation :** Principle of Chilling of Fish- Properties of ice- Using ice at sea; Preservation with Refrigerated sea water and Chilled sea water; Principle of Freezing of fish- freezers- Freezing time- treatment of fish after freezing-freezing at sea.

Carriage of fish : Landing of fish from trawler; Carriage of live fish; Carriage of frozen fish.

(5) Fisheries Management and world fishing resources :

(a) **Management :** meaning of fisheries management, characteristics of fisheries management; problems in fisheries management.

(b) **Fleet management :** Organization of fishing fleet; Type and size of vessel required vis-a-vis resources/fishing ground/methodology. Shore based facility-berthing-loading- Unloading, bunkering, Fresh water, storage- cold storage/ ice plant- fishing gear- engine spare- general; processing- freezing-canning;

Management of personnel in fishing operation;

Voyage planning of fishing vessel: Estimated costing of a voyage for a fishing vessel; Yearly profit & loss estimation of a vessel for a fishing company.

Management organization : Meaning of management organization; Important rules to build good management; Financial management of a fishing company.

(c) **World Fishing Resources :** Marine Fishing countries in the world. Main ocean currents in the world. Important fishing areas which are abundant in fish resources.

2.2. SYLLABUS FOR ORALS EXAMINATION SYLB/FVSK

(1) Syllabus covered in the orals examination of Fishing Vessel Mate (FVM).

(2) Getting under way; Berthing and Unberthing during various condition of wind and tide.

(3) How to keep ships head to sea *in heavy weather, if engine and gear is out of* order.

(4) Maneuvering the vessel during fishing operation with special attention to shooting and hauling nets.

(5) Man overboard procedures : Turning circle during trawling with special attention to keep demanded water depth.

(6) Organization of fire drill, class of fire, chemistry of fire; use of fire fighting appliances.

(7) Action to be taken prior to grounding, after aground of vessel; afloating an agrounded vessel; action to be taken after aground of fishing gear during trawling.

(8) Measures for the protection and safety of crew during emergency, abandoning ship on fire, distress or collision.

(9) Taking shelter during bad weater or emergency.

(10) Action to be taken when a vessel has sprung a leakage; precaution for beaching a vessel.

(11) The rigging of fishing vessel; use of jury rudder.

(12) Action to be done according to the "Act" in case of death, injury, ill-treatment, punishment inflicted on board and casualty to a vessel.

(13) Knowledge of Bangladesh Merchant shipping, ordinance (BMSO) Chapters relevant to fishing. FAO, ILO, IMO Conventions related to fishing vessels and fishing vessel personnel.

(14) Musters and drills; Shipboard management and Training.

(15) Other matters relating to the duties of skipper of a fishing vessel.

APPENDIX-C`

FORMS AND CERTIFICATES REQUIRED FOR FISHING VESSELS AND DECK OFFICER CERTIFICATION :

PAGE-1 FVDOCEF-1

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF SHIPPING
DEPARTMENT OF SHIPPING

SEA-SERVICE ASSESSMENT

Name : .....
Candidate for : .....
CDC/Passport No. : .....
Certificate held : .....
Pre-sea Training : .....
Preparatory Courses : .....
Ancilliary Courses : .....
Naval/Pilotage Service : .....
Fishing Vessel Service : .....
Service on Trading Ship : .....
Particulars of Sea-service : .....

Sl. No	Name of Ship	Capacity	Period		Total Sea-time
			From	to	
Gross Total Sea-time :					

Watch-keeping Service :

1. .....

2. .....

Page-2

Mr. .....

Date of birth : .....

CDC/Passport No. :

This candidate is eligible/ineligible to take the Examination subject to the following conditions.

1. He needs to do all Ancilliary Courses as stated in rule No.....of FVDOCR'2003.
2. He will have to serve on Trading Ship/fishing Vessel for .....months before issuance of his certificate of Competency.

Date : _____

_____
Chief Nautical Examiner

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GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF SHIPPING
DEPARTMENT OF SHIPPING

APPLICATION FOR DECK OFFICE EXAMINATION

FISHING VESSEL MATE/SKIPPER

Name : ..... DOB : .....
DOS Registration No. : .....D-00.....
CDC/Passport No. : .....Height : .....
Identification mark : .....
Present address : .....
.....
Permanent address : .....
.....
Certificate held : .....
Candidate for : .....
Parts/Subjects :

Result & last date if appeared previously : .....
Parts/Subjects :

Status of Ancilliary Course :
.....
.....

Date : .....

Signature of the Candidate

PAGE-1 FVDOCEF-3

Government of the People's Republic of Bangladesh

Certificate of Recognition

issued under the provisions of Bangladesh Merchant Shipping Ordinance 1983 and the STCW (F)' 1995 Convention

The Government of the People's Republic of Bangladesh certifies the certificate No...issued to .....

by or on behalf of the Government of .....is duly recognized qualified in accordance with the provisions of regulation .....of the above Convention, and the lawful holder is authorized to perform the following functions. at the levels specified, subject to any limitations indicated untill .....

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)
As mentioned in the above certificate		As mentioned in the above certificate

The lawful holder of this endorsement may serve in the following capacity or capacities specified in the applicable safe manning documents issued by the Department of Shipping, Bangladesh.

CAPACITY	LIMITATIONS APPLYING (if any)
	As mentioned in the above certificate

Endorsement No. .....
issued on.....

Seal

Signature .....
Name.....
Chief Nautical Examiner

PAGE-2

The original of this endorsement must be kept available in accordance with regulation.....paragraph.....of the Convention while serving on a ship.

Date of birth of the holder of this certificate.....

Signature of the holder of this certificate.....

Director General
Department of Shipping

Photograph

Signature.....
Name.....
Chief Nautical Examiner

PAGE-1 FVDOCEF-1

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
DEPARTMENT OF SHIPPING
141-143, MOTIJHEEL COMMERCIAL AREA
DHAKA-1000, FAX : 02-9666159

No. .....

Dated : .....

MINIMUM SAFE MANNING CERTIFECATE
OF F.V. .....

The Department of Shipping, Government of Bangladesh, hereby allows the aforesaid vessel to sail for a period of 12 (twelve) months with the following complements :—

1. Skipper.....
2. Chief Mate.....
3. Navigational Watch keeping Officer (According to IMO Convention STCW (F)'95 .....
4. Chief Engineer Officer.....
5. Second Engineer Officer.....
6. Engineer Watch keeping Officer (According to IMO Convention STCW (F)'95 .....
7. Deck Rating.....
8. Engine Rating.....
9. Saloon Rating.....

Total=

(Chief Nautical Surveyor)
For, Director General

To: .....
.....

Distribution :-

1. .....
2. .....
3. .....

PAGE-1 FVDOCEF-5

Government of the People's Republic of Bangladesh

Certificate issued under the provisions of Bangladesh Merchant Shipping Ordinance 1983 and the STCW (F)'1995 Convention.

CERTIFICATE OF COMPETENCY
FISHING VESSELS SKIPPER/MATE

Cert. No. and date of issue.....

The Government of the People's Republic of Bangladesh Certifies that
.....

has been found duly qualified in accordance with the provisions of regulation.....of the above Convention. and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated untill.....or untill the date of expiry of the extension of the validity of this certificate as may be shown overleaf :

FUNCTIONS	LEVEL	LIMITATIONS APPLYING (if any)
Navigation, fishing and Fish cargo handling and stowage, Controlling the operation of the ship and care for persons on board	Operation/ management	

The lawful holder of this certificate may serve in the following capacity or capacities *specified in the* applicable safe manning certificate issued by the Department of Shipping, Bangladesh.

CAPACITY	LIMITATION APPLYING (if any)
	Unlimited

Signature.....

Name.....

Official Seal

Chief Nautical Examiner

PAGE-2

The validity of this certificate is hereby extended until.....

Signature.....

Seal Name.....

Date of revalidation..... Chief Nautical Examiner

The validity of this certificate is hereby extended until.....

Signature.....

Seal Name.....

Date of revalidation..... Chief Nautical Examiner

The validity of this certificate is hereby extended until.....

Signature.....

Seal Name.....

Date of revalidation..... Chief Nautical Examiner

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Attention is drawn to the provisions of the Bangladesh Merchant Shipping Ordinance whereby the fraudulent use and forgery, or alteration of this document could constitute a criminal offence.

Any person other than the holder coming in possession of this document is requested to send it to the Director General, Department of Shipping, address as given below in an unstamped envelope. Postage will be paid by the addressee.

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The original of this certificate must be kept available in accordance with regulation.....paragraph .....of the convention while serving on board a ship.

Name of the holder.....

Date of birth of the holder.....

Place of birth of the holder.....

Qualifying conditions met on.....

Certificate issued at DEPARTMENT OF SHIPPING, DHAKA BANGLADESH.

Certificate No. & Grade.....

Issued on.....

Signature of the holder.....

Photograph

Director General
Department of Shipping

Signature.....

Name.....

Chief Nautical Examiner

শেখ মোঃ মোবারক হোসেন (উপ-সচিব), উপ-নিয়ন্ত্রক, বাংলাদেশ সরকারী মুদ্রণালয়, ঢাকা কর্তৃক মুদ্রিত।
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