

SOME IMPORTANT ASPECTS OF FISHING VESSEL REGULATIONS IN INDIA

By

V. A. PUTHRAN,

Central Institute of Fisheries, Nautical & Engineering Training, Cochin

INTRODUCTION

During recent decades there has been rapid technological development in design of vessels, in deck machinery, navigational aids and other equipment. Larger and powerful vessels equipped with highly sophisticated equipment are already on the high seas. With the accelerated pace of technical and economical development in the shipping industry, there are practically no sea areas inaccessible to modern vessels and techniques.

With the increasing size of vessels, the chances of accidents have become more, especially in the areas of high congestion routes. In order to avoid accidents and achieve greater safety at sea, rules and regulations on shipping are also changed along with the technological advancement.

The international regulations for preventing collision at sea were revised and redrafted by the Inter - Governmental Maritime Consultative Organi-

sation (IMCO) and approved by a conference convened by the organisation in 1972. These rules have come in force in 1977 and the majority of the countries in the world are following the same. In addition to this, each country makes its own rules for the manning requirements, certification and examination of different grades, safety equipment and registration of vessels.

Regulation for preventing collision at Sea

The new 1972 International Regulation for preventing collision at sea are followed by the Indian vessels. Under these regulations, vessels engaged in fishing shall display the appropriate lights, shapes, flags and use the prescribed sound signals. Engaged in fishing means fishing with nets, lines, trawls or other apparatus that restrict manoeuvrability, but does not include trolling lines or other apparatus that does not restrict manoeuvrability. Code and conduct of vessel engaged in fishing:-

1. As per the new collision regulation, sailing and power-driven vessel under way shall keep out of the way of vessels engaged in fishing.
2. Vessel engaged in fishing shall:-
 - a) not impede the passage of any vessel navigation within a narrow channel or fairway and any vessel following a traffic lane under the traffic separation scheme
 - b) so far as possible, keep out of the way of a vessel not under command, a vessel restricted in her ability to manoeuvre and avoid impeding the safe passage of a vessel constrained by her draught.
 - c) keep out of the way of the vessel overtaken.

Signals for vessel engaged in fishing

Lights and signals to be displayed by vessel engaged in fishing are given in the coloured plate.

Additional information on Fishing Lights and Signals

Size of the cone - diameter of the base and height not less than 0.6 metre; shapes of lesser dimension may be used by vessels of less than 20 metres in length.

Sound signals in restricted visibility-one prolonged blast followed by two short blasts at intervals of not more than 2 minutes. Vessels of less than 12 metres may make some other efficient sound signals at some intervals.

Note: To attract the attention of another vessel, any vessel may make light or sound signals that cannot be mistaken for any signal authorised elsewhere in the rules, or may direct the beam of its searchlight in the direction of danger, in such a way as not to embarrass any vessel.

Vertical distance of fishing lights - for vessels of 20 metres or more - two metres, but the lower light should not be less than four metres above the hull;

for vessels of less than 20 metres - one metre, but the lower light should not be less than 2 metres above the gunwale. The distance between the side lights and the lower of the fishing lights shall be twice the vertical distance between the fishing lights.

Trawlers: a) a mast head light shall be carried abaft of and higher than the fishing lights; vessels of less than 50 metres in length need not carry the mast head light,

b) optional additional lights if exhibited should be at least 0.9 metres apart and between the fishing lights,

c) vessels engaged in pair trawling may exhibit their search light directed forward and in the direction of the other vessel of the pair.

Other than Trawler: when gear extends more than 150 metres horizontally from vessel, another allround white light exhibited shall be placed between two to six metres from the fishing lights towards the direction of the gear and shall not be below the side lights.

Range and visibility of lights

Lights & Visibility Length of the vessel in Metre	Masthead light 225°	Side light 122½°	Stern light 135°	All round light 360°	Remarks
50 and above	6 miles	3 miles	3 miles	3 miles	The additional lights for shooting, hauling, net obstruction and hampered by purse-seining shall be visible at least one mile but at a lesser distance than other fishing lights
20 — 50	5 „	2 „	2 „	2 „	
12 — 20	3 „	2 „	2 „	2 „	
Less than 12	2 „	1 „	2 „	2 „	

THE INDIAN MERCHANT SHIPPING ACT 1958 (44 of 1958)
(As modified upto the 1st July 1973)

Grading of Certificate of competency for manning fishing vessels

As per the above Act, the following grades of Certificate of Competency are granted for manning fishing vessels namely -

- a) Second hand of a fishing vessel
- b) Skipper of a fishing vessel
- c) Engine Driver of a fishing vessel (Motor).
- d) Engineer of a fishing vessel (Motor).

Manning regulations for fishing vessel

Every fishing vessel when going to Sea from any port or place in India shall be provided with the deck and engine side officers as given below;—

Deck side officers

Gross tonnage	Certificated Skippers	Certificated Second hands
Above 25 upto 50	one	—
Above 50	one	one

Engine side officers

N. H. P.	Certificated Engineers/Drivers	Holder of Certificate of competency as
Less than 50 (282 B. H. P.)	one	Engineer of a fishing vessel or Engine Driver of a Sea going ship or Engine Driver of a fishing vessel
Above 50 (282 B. H. P.)	one	First class Engineer or Second class Engineer or Engineer of a Fishing vessel

Particulars of qualification and experience required to appear for the Certificate of Competency as per Merchant Shipping (Examination for Skipper and Second hand of a fishing vessel) Rules 1964

Second hand of fishing vessel

Age - not less than 19 years

Sl. No.	Service on deck at Sea	Service on deck of Sea going fishing vessel of not less than 25 tons Gross	Service in the Indian Navy	Remarks
1.	—	*36 months	—	*Remission of 9 months Sea service is given to the candidates who have passed the Fishing Second hand course from C. I. F. N. E. T.
2.	*30 months	12 months	—	
3.	—	12 months	Maximum period of 30 months	

Skipper of a Fishing Vessel
Age - not less than 21 years

Sl. No.	Service at Sea	Service on deck of Sea going fishing vessel of not less than 25 Tons gross as Second hand fishing	Qualification - Holder of
1.	48 months	*12 months	*Certificate of Competency as Second hand
2.	—	12 months	Certificate of Competency as Master or Mate

Candidate for a Certificate of Competency as Second hand and Skipper of a fishing vessel shall pass the examination in the following three parts namely -
i) written test ii) oral test iii) signalling.

	Second hand	Skipper
i) Written test		
a) Chart work	2 hr. paper	3 hr. paper
b) Practical Navigation	1 hr. paper	3 hr. paper
ii) Oral test	Navigation and Seamanship	Navigation and Seamanship
iii) Signalling	Receive/send and oral	Receive/and oral

The Syllabii for these examinations are attached as Appendix A.

For the above-said competency examination, the candidates are examined at the offices of Mercantile Marine Department at Calcutta, Bombay and Madras. The examination generally commences on the first Monday in each month. A candidate who desires to appear for an examination shall apply in the prescribed form to the Principal Officer, M. M. D. at the port at which he desires to be examined at least one week before the commencement of the examination. Every such application shall be accompanied by the following documents, namely, a) a certificate of birth b) testimonials as to character including sobriety and experience and ability on board ships for the last twelve months of sea service preceding the date of application c) certificate of discharge and a valid First Aid certificate. Every candidate has to undergo the prescribed sight test before certificate is issued to him.

Particulars of qualification and experience required to appear for the Certificate of Competency as per Merchant Shipping (Examination of Engineers and Engine Drivers of Fishing Vessel) Rules 1973

Engine Driver of Fishing Vessel (Motor)

a) experience counted only after the age of 14 years

b) age - not less than 18 years

Sl.No.	Qualification after having obtained	Designation	Workshop service		Sea service on board fishing vessels propelled by internal combustion engine		
			Nature of service	Period not less than	B. H. P.	Period in months	Nature of service
1.	—	As an apprentice or Fitter	Work suitable for the training of an Engine Driver in the manufacture or maintenance of internal combustion engines of a fishing vessel or other suitable machinery or both	*18 months	Not less than 40	9 months	Service in the Engine room
<p>* Remission of 12 months workshop service is given to the candidates who have passed the Engine Driver Course from C. I. F. N. E. T. The balance six month service in workshop also can be substituted by sea service in the engine room of fishing vessels as follows :-</p> <p>a) 6 months in not less than 85 B. H. P. b) 9 months in not less than 40 B. H. P. c) 13 months below 40 B. H. P.</p>							
2.	—	—	—	—	Not less than 85	27 months	do
3.	—	—	—	—	Not less than 40	36 months	do
4.	—	—	—	—	Not less than 40	48 months	do
5.	Diploma in Mechanical/Engineering of a Board of Technical Education of any State	—	—	—	Less than 40	6 months	do
6.	IIInd Class Engine Driver's certificate	—	—	—	Not less than 40	9 months	do
7.	Ist class Engine Driver's certificate	—	—	—	can directly appear for the examination		

The First class and Second class Engine Driver's certificate means certificate of competency under the Inland Steam Act 1917 (1 of 1917) or an equivalent certificate granted under the Indian Ports Act 1908 (15 of 1908)

Engineer of Fishing Vessel (Motor)

- a) experience counted only after the age of 15 years
 b) age - not less than 20 years

Sl. No.	Qualification after having obtained	Designation	Workshop service		Sea service on board fishing vessels propelled by internal combustion engine		
			Nature of service	Period not less than	B. H. P. not less than	Period not less than	Nature of service
1.	—	As an apprentice Engineer	Work suitable for the training of an Engineer in the manufacture or maintenance of internal combustion engines of a fishing vessel or suitable machinery or both	24 months	170	12 months	Engineer or Fitter on regular watch
a) Sea service in a sea-going ship is also counted. b) The part of the full workshop service can be substituted by sea service in the engine room of sea going ship or fishing vessel propelled by internal combustion engines in the following proportion:— i) Main engine of not less than 170 B. H. P. 3 months sea service = 2 months workshop service ii) Main engine of more than 85 and less than 170 B. H. P. 2 months sea service = 1 month workshop service.							
2.	—	As an apprentice Fitter	—do—	36 months	170	12 months	—do—
3.	Engine Driver of Sea-going motor ship	—	—	—	170	3 months	Service in the Engine room
4.	1st Class Engine Driver's certificate	—	—	—	170	9 months	—do—
5.	Engine Driver of fishing vessel and Diploma in Mechanical Engineering of a head of any Technical education of any State Govt.	—	—	—	170	12 months	—do—
6.	Engine Driver of fishing vessel	—	—	—	170	21 months	—do—

Note: "Sea service" means time actually spent at Sea on sea-going motor ships or fishing vessels excluding time spent such as on lay offs, for repairs, leave, survey.

"Service in the engine room" means service in a rank not lower than a greaser in full charge of a watch.

A candidate for a Certificate of Competency as an engine driver of a fishing vessel (motor) shall pass a *viva-voce* examination in engineering knowledge.

A candidate for the certificate of competency as an engineer of a fishing vessel (motor) shall pass examinations in the following two parts, namely -

- Part A**
- i) Elementary Mathematics (one paper of three hours)
 - ii) Elementary Drawing (one paper of three hours)
- Part B**
- i) Elementary General Engineering
 - ii) a) Engineering knowledge (one paper of three hours)

b) Orals

The Syllabii for these examinations are attached as Appendix B.

For the above-said competency certificate examinations, the candidates are examined at the offices of the Mercantile Marine Department at Calcutta, Bombay, Madras, Goa, Cochin, Visakhapatnam and Jamnagar. A candidate who desires to appear for an examination shall apply along with the testimonials to the Principal Officer, or Surveyor-in-charge, Mercantile Marine Department of the port or place at which the candidate desires to take the examination at least 15 days before the commencement of the examination.

List of life-saving appliances to be provided on board fishing vessels (Ships o

Length of vessel in Metres	Life boat at least	Class C boat (length in metres)	Inflatable life-rafts at least	Buoyant apparatus
44 or more	Two	—	— or Two	—
35 — 44	One	—	One	or One
24 — 35	—	One (4.9)	One	or One
12 — 24 (during foul season)	—	One (4.3)	or One	—
12 — 24 (during foul season)	— (4.3)	One	or One	or One

Capacity to accommodate or support as the case may be	Life buoys at least	Life Jackets	Distress signal at least
Life boat on each side- for all persons on board the ship	4 - for vessels of 30 metres or more		12 parachute distress signals - for Ships of more than 24 metres in length -
Rafts - twice the number of persons on board the ship	At least one half of the life-buoys to be carried shall be fitted with self igniting light.	One for each person	6 red star distress signals for Ships of less than 24 metres in length
Life boat - all persons on board the ship. Raft or buoyant apparatus - all persons on board the ship	One life-buoy (not attached with the self igniting light on each side of the ship to be attached with a buoyant line of 27.5 metres in length on ships of more than 21.5 metres in length and 18 metres buoyant line on ships of less than 21.6 metres in length.		
Raft or buoyant apparatus - one and half times the number of persons on board the ship			
Raft - all persons on board the ship			
Raft or buoyant apparatus - all persons on board the ship			

List of fire fighting appliances to be provided on board fishing vessels (Ships of Class VIII) fitted with internal combustion propelling machinery under 1000 Gross Tons as per Indian Merchant Shipping (Fire Appliance) Rules 1969.

Gross Tonnage of vessel	Pump and fire hose to direct powerful jet of water in any part of the ship with suitable nozzle spraying water on oil	Fixed fire extinguishing installation	Foam type	Fire Extinguishers- Portable Capable of discharging froth or any other substance suitable for quenching oil fires.	Other types	Fire Buckets filled with sand or water	Receptacle containing adequate quantity of sand or other dry material suitable for quenching oil fires with the scoop for distributing the same
Under 150	one set (for open boats this can be substituted by two fire buckets attached with lanyard)	—	—	Two	—	Three	One set
* Fire bucket painted Red - word "FIRE" in Black or Red. Half the number of buckets fitted with lanyard.							
150 - 500	One set (powered pump)	—	One with capacity of 45 litres	Two	—	Four	One set
500 - 1000	One set (powered pump)	One	—	No. of Fire Extinguishers	B.H.P. of main engine	Three	—
				3	Not over 100		
				4	100 - 150		
				5	150 - 200		
				6	200 - 250		
				7	over 250		

* In addition, one set of Fire mans out fit shall be carried. Two numbers of fire extinguishers can be substituted by either fire extinguisher of 45 litres capacity or 16 Kg. Co².

At present in India, we have different sizes of vessels engaged in fishing operations carried out for different purposes such as:

- i) Exploratory/Experimental/Research/Survey
- ii) Training
- iii) Commercial

According to the International collision rules, all vessels engaged in fishing are covered under the rules. As per the Merchant Shipping Act 1958 "Fishing vessel" means a ship fitted with mechanical means of propulsion which is exclusively engaged in sea fishing for profit. This indirectly means that the 3rd category of vessels alone are fully covered by the existing manning and safety regulation prescribed in the M. S. Act 1958 under the head "Fishing Vessels". In order to have a uniform and streamlined procedure especially in view of the increase in the number of vessels joining the fishing fleet of the country, it would be appropriate if separate rules are framed for fishing vessels covering all the above said aspects including registration, and bring the same under a separate chapter in the existing Merchant Shipping Act.

Acknowledgement:

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References:

1. International Regulations for preventing Collision at Sea, 1972.

2. The Merchant Shipping Act 1958 (44 of 1958), Govt. of India, Ministry of Law, Justice and Company Affairs.
3. The Merchant Shipping (Examination for Skipper and Second hand of fishing vessel) Rules 1964.
4. The Merchant Shipping (Examination for Engineers and Engine Drivers of fishing vessels) Rules 1973.
5. The Merchant Shipping (Fire Appliances) Rules 1969.
6. The draft of the Merchant Shipping (Life saving appliances) Rules 1969.

APPENDIX A

SYLLABI FOR EXAMINATIONS

I. Certificate of Competency as Second hand

- (i) Written examination in Navigation:
 - a) take bearing by compass; use of chart, meaning of all the marks, signs and abbreviations thereon; finding the courses and distance made good, the compass courses and distances, counteract the effect of tide and current; ship's positions by cross bearing of two objects; and from two bearings of the same object.
 - b) find the latitude by Meridian Altitude of the sun.
- (ii) Oral examination in Navigation and Seamanship – the use and adjustments of the Sextant; improvising and use of a sea anchor;

marking and use of the lead line; rigging and masting of fishing vessels; accidents and how to deal with them; taking in and setting fore and aft sail; man overboard and necessary action; management of vessel's boat in heavy weather; International Regulations for Preventing Collisions at Sea, 1972; the distress signals, pilot signals and the liabilities and penalties for misuses; use and management of the rocket apparatus; uniform system of buoyage and wreck marking system; local seamarks, lights etc., notices to mariners; storm signals on the Indian coast; life saving appliances and fire appliances.

- (iii) Examination in signalling - morse and semaphore alphabets (with the speed of 6 words a minute in semaphore and 4 words a minute in morse flashing); International Code of flag signals (meaning of single flag).

II. Certificate of Competency as Skipper

(The topics to be dealt with, in addition to those for Second hand examination are given below)

- (i) Written examination in Navigation.
- (a)(i) variation, deviation by transit bearing (ii) course and distance made good, course to steer by counter-acting the effect of tide or current (b)(i) day's work in simplest form (ii) deviation of the compass by Amplitude and Time Azimuth of the sun (iii) longitude by chronometer and by the altitude of the Sun

- (ii) Oral examination in Navigation and Seamanship — use of the Pelorus, finding the deviation by means of two bearings; use and reading of the Aneroid barometer; getting under way; tending a vessel at anchor; mooring and unmooring; keeping a ship head to sea in heavy weather or if dismasted or with engines broken down; action to be taken if vessel is springing leak; rigging and use of a jury rudder; getting a cast with the deep sea lead in heavy weather; laws of storms and tracks and season of cyclones in the Indian Ocean and the Bay of Bengal; relevant Chapters of Merchant Shipping Act, 1958 concerning case of a death, injury or ill-treatment or of punishment inflicted on board or in case of casualty to a vessel; as to agreement and apprentices' indentures; as to accounts, wages; and as to certificates of discharge, application of echo sounding in detecting fishing grounds; duties of a skipper of a fishing vessel

- (iii) Examination in signalling - knowledge of the "International Code of Signals"

APPENDIX B

SYLLABII FOR EXAMINATIONS

I. Certificate of Competency as engine driver of a fishing vessel

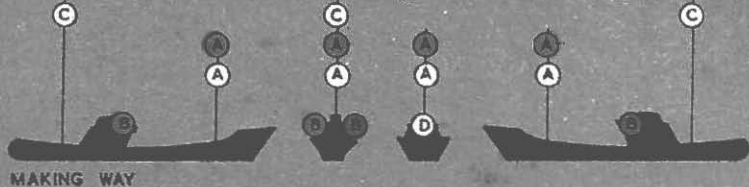
1. **viva-voce** - working of the various types of internal combustion engines and principal parts of machinery; use and management of the different valves, cocks,

SIGNALS FOR VESSEL ENGAGED IN FISHING

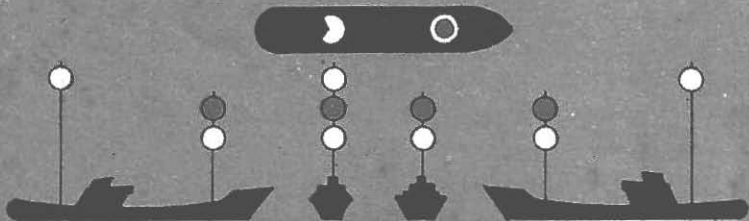
NIGHT - LIGHTS TRAWLING



- A FISHING LIGHTS 360°
- B SIDE LIGHTS 112 1/2°
- C MASTHEAD LIGHT 225°
- D STERN LIGHT 135°



MAKING WAY



NOT MAKING WAY

TRAWLERS OPTIONAL LIGHTS PURSE SEINERS

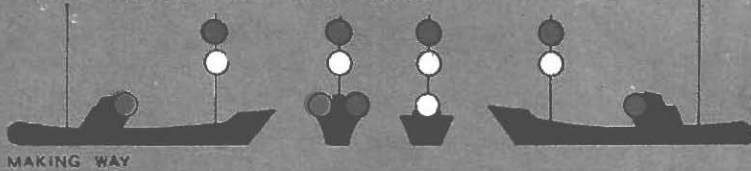
- SHOOTING NETS
- HAULING NETS

- NET HAS COME FAST UPON AN OBSTRUCTION

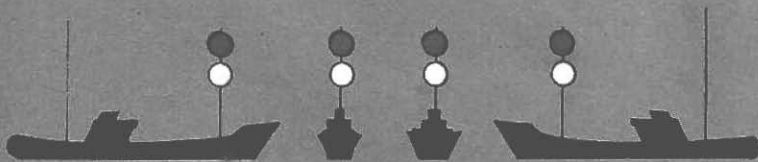
FLASH ALTERNATELY EVERY SECOND WITH EQUAL LIGHT AND OCCULTATION DURATION. EXHIBITED ONLY WHEN THE VESSEL IS HAMPERED BY ITS FISHING GEAR.

OTHER THAN TRAWLING

GEAR EXTENDING 150m OR LESS HORIZONTALLY FROM THE VESSEL

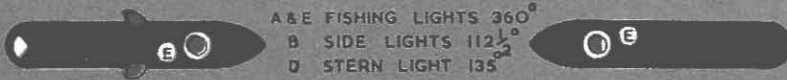


MAKING WAY

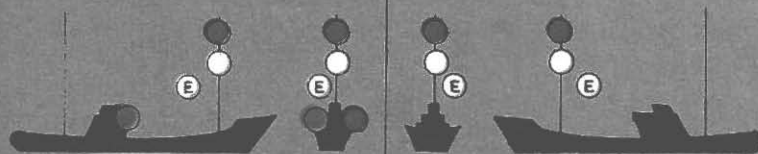


NOT MAKING WAY

GEAR EXTENDING MORE THAN 150m HORIZONTALLY FROM THE VESSEL



- A & E FISHING LIGHTS 360°
- B SIDE LIGHTS 112 1/2°
- D STERN LIGHT 135°

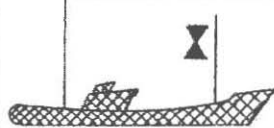


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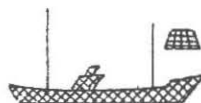
NOT MAKING WAY

DAY - SHAPES

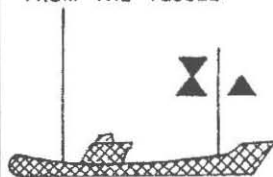
TWO BLACK CONES POINTS TOGETHER DISPLAYED VERTICALLY



BASKET - ALTERNATIVE FOR VESSEL OF LESS THAN 20m IN LENGTH



BLACK CONE IN DIRECTION OF OUTLYING GEAR EXTENDING MORE THAN 150m HORIZONTALLY FROM THE VESSEL.



FLAGS

- Z I AM SHOOTING NETS
- G I AM HAULING NETS
- T KEEP CLEAR OF ME. I AM ENGAGED IN PAIR TRAWLING.
- P MY NETS HAVE COME FAST UPON AN OBSTRUCTION

SOUND SIGNALS IN RESTRICTED VISIBILITY. ONE PROLONGED BLAST FOLLOWED BY TWO SHORT BLASTS AT INTERVALS NOT EXCEEDING TWO MINUTES.

pipes and connections, method of supplying air and fuel to the cylinders; starting troubles of engines, defects connected therewith, remedies, starting reversing arrangements and defects therein; overhauling the engine, wear and tear to the machinery, correction for defects from accidents; properties of fuel oils used in internal combustion engines; leakage from fuel oil tanks, precautions to be taken against explosion; precautions to guard against the escape of inflammable vapour when the engines are stopped, dealing with fire, fire fighting appliances; layout and working of electric light installations; dry-docking including repairs to the propeller, tail shaft rudder and sea connections; elementary calculations pertaining to speed, consumption of fuel oil, and fresh water; maintenance of simple log book concerning the performance of engines; pumping out bilges; construction and maintenance of insulated holds; use of common engineering materials on fishing vessels;

- 2, **Practical Test:** Actually overhauling and operating the engines of a fishing vessel in the presence of an examiner.

II. Certificate of Competency as Engineer of a Fishing vessel

1. Written examination on the following subjects:

a) Elementary Mathematics

Addition, subtraction, multiplication, division, decimals and vulgar fractions; powers and roots of

numbers, ratio and proportion, percentages, direct and inverse variation, averages; areas and perimeters of a rectangle, triangle and circle, volumes and surface areas of box shaped bodies, cylinders, pyramids, cones and spheres; Simpson's First Rules; practical applications involving use of given formulae, rearrangement of given formulae;

b) Elementary Drawing:

Use of drawing instruments, reading of blue prints, production of working drawings of machine and engine parts, code of practice of General Engineering Drawing as published by Indian Standards Institution (IS; 696-1960)

c) Elementary General Engineering Science

Fundamental units, density and specific gravity, parallelogram of forces, the triangle of forces, moments and levers, parallel forces, centre of gravity, stress and strain, friction, work, temperature scales, quantity of heat and specific heats, quantity of electricity and Faraday's Laws of Electrolysis, resistivity, Ohm's Law, the measurement of resistance by the Ammeter/Voltmeter method.

d) Engineering Knowledge:

Principles of working, construction, operation and maintenance of two stroke and four stroke internal combustion engines (supercharged and naturally aspirated) used on board ship, with particular reference to starting and reversing arrangements and safety

devices; general uses and application of various materials used in machinery on board fishing vessels, the construction, use and principles involved in the action of pressure gauge, thermometer, pyrometer, and other measuring instruments commonly used on board ships; construction, operation and maintenance of centrifugal, bucket and gear type pumps, lay-out and operation of bilge, ballast and fuel oil systems; construction, operation and maintenance of steering gears; lay-out and working of electric light and electric power installation with particular reference to safety devices; construction and care of starting air vessels including mountings; construction and operation of refrigerating plant and methods of in-

sulating fish holds; estimation of fuel; lubricating oil and water consumption, for a given voyage; work related to drydocking, including propeller, tail, shaft, rudder, sea-connections; elements of ship construction; precautions against fire and explosions due to oil vapour or gas, flash point, danger of oil leakage, precautions while bunkering; explosion in crank cases and starting air systems; construction, operation and maintenance of fire fighting appliances; knowledge of statutory requirements concerning safety; free hand sketches of machine and engine parts.

2. **Viva-voce** examination on 'Engineering Knowledge' as specified above.