

1. Course Title: Pre-Sea Rating Training (Deck)**2. Scope With reference to convention Imo Model Course:**

This course is intended for fresh trainees who have not previously served on board a ship to prepare them for working as deck ratings. This training, together with the basic Safety Training (STCW Code A-VI/1.2) and Company arranged Training will cover the mandatory minimum training requirement prescribed in Regulation VI/1 and II/4-2.2.2 of International Convention of Standards of Training, Certification and Watch keeping for Seafarers (STCW), 95 Code.

Main content of the course covers orientation and familiarization of ship in general and navigational bridge and deck, equipment therein in particular. This includes training on duties, functions, responsibilities and watch keeping in addition to Emergency, Safety and Survival.

3. Objective:

1. This Course will provide sufficient knowledge for a person intending to go to sea as a Deck Rating to operate and work on the shipboard machinery and systems typical of various types of merchant vessels in a safe and efficient manner.
2. On Successful completion of this Course, the participant should be able to:
 - a. Understand a deck rating's responsibilities as an efficient member of the operational team in Watch keeping and navigational bridge operations.
 - b. Describe safe working practices and procedures during mooring and anchoring operations.
 - c. Describe the operation and maintenance of deck equipment, rope and wirework.
 - d. Understand the safety requirements and precaution associated with various types of modern merchant vessels.

4. Course Outline Shore base & On board Training:

	Subject Area	Hours	
		Lectures	Practical
1.	Ship and Shipping Familiarization		
1.1	Introduction	0.75	
1.2	Ship, shipboard organization, structure and process	1.50	
1.3	Department of Shipping, Government of Bangladesh	1.50	
1.4	Seafarers and ship owner organization	0.75	
1.5	Seafarer and the Law	1.50	
		6.00	
2.	General Ship Knowledge		
2.1	Common Nautical Terms	2.25	
2.2	Types of ships and layout	2.25	0.75
2.3	Operational mode of various types of ships	5.25	
2.4	Gears for various type of ships	3.75	
2.5	Principal features of a ship	3.75	
2.6	Principal parameters of ship stability	4.50	
2.7	List of all Deck Machinery	1.50	
		23.25	0.75
3.	General Safety and Accident Prevention		

	3.1	Introduction	3.75	
	3.2	COSWP for merchant seamen	3.00	
	3.3	Work activities	3.75	
	3.4	Working tools	4.50	
	3.5	Lifting plant	4.50	
			19.50	
4.	Cargo Work			
	4.1	Cargo Handling equipment	2.25	2.25
	4.2	General cargo	4.50	
	4.3	Liquid Bulk cargo	4.50	
	4.4	Containerized cargo	3.75	
	4.5	Roll-on/Roll-off cargo	3.00	
	4.6	Solid Bulk cargo	3.00	
	4.7	Dangerous goods	2.25	
			23.25	2.25
5.	Bridge Operations and Watch keeping			
	5.1	Look out and watch keeping	3.00	
	5.2	Lights and shapes	3.00	
	5.3	Distress signals	3.00	
	5.4	Bridge equipment	2.25	
	5.5	Compass	2.25	
	5.6	Steering		13.50
			13.50	13.50
6.	Rope and Wire Work			
	6.1	Types of ropes and wires used on board	0.75	2.25
	6.2	Properties and use of various ropes and wires	1.50	7.50
	6.3	Storage and maintenance of ropes and wires	1.50	2.50
	6.4	Proper use of gantlines and safety harnesses	0.75	4.50
	6.5	Safe rigging practice	0.75	5.25
			5.25	21.75
7.	Deck Operations			
	7.1	Mooring and anchoring operation	6.00	
	Subject Area		Hours	
			Lectures	Practical
	7.2	Pilot ladders and means of access	4.50	
	7.3	Hatches and hatch covers	4.50	
	7.4	Bow and stern doors and ramps	3.00	
			18.00	
8.	Port Duties			
	8.1	Arrival port duties	3.00	
	8.2	Departure port duties	3.75	
	8.3	Watch keeping in port	3.75	
	8.4	Heavy weather preparation	4.50	
			15.00	
9.	Ship Maintenance and Paint Systems			
	9.1	Corrosion in the Marine Environment	3.00	
	9.2	Surface Preparation Equipment and Techniques	3.00	
	9.3	Shipboard derricks and cranes	4.50	
	9.4	Dry-docking	4.50	

			15.00	
10.	Communication			
10.1	Radio communication	1.50	0.75	
10.2	Shipboard Communication	3.75		
10.3	Ship to Shore communication	2.25	0.75	
		7.50	1.50	
11.	Engine Familiarization			
11.1	Machinery space layout	1.50		
11.2	Items in the machinery space	4.50	4.50	
11.3	Tanks	3.00		
11.4	Propulsion system	2.25		
11.5	Piping systems	3.00		
11.6	Power generation	0.75	0.75	
11.7	Steering gear	1.50	0.75	
11.8	UMS (unmanned machinery space) operation	1.50		
11.9	General safety in machinery space	3.00		
		21.00	6.00	
12.	Visits			
12.1	Ship		4.50	
12.2	Dry-dock		4.50	
12.3	Marine Workshop		4.50	
			13.5	
13.	English			
13.1	Spoken English	27.0		
13.2	Marine Vocabulary	7.50		
		34.5		
14.	Assessment			
14.1	Item 1 to 10	5.25		
14.2	Item 11	0.75		
14.3	Item 13	0.75	2.25	
		6.75	2.25	
Sub Totals		233.25	36.75	
Total		270.0		

5. Competence Standard/Course Syllabus Checked with up-to-date STCW/IMO Model Course:

Learning Object

		Hours
1	Ship and Shipping Familiarization	6.0
1.1	Introduction	0.75
	1. Understands the outline of Bangladesh Merchant Services 2. List cargoes and trade patterns	
1.2	Ship, shipboard organization, structure and process	1.5
	1. Describes shipboard organizational set up 2. Understands rules that governs ships administration 3. Knows duties and responsibility of different ranks.	
1.3	Department of Shipping, Government of Bangladesh	1.5

	1. Understands the importance of Mercantile Marine Office 2. Knows the significance of Ship's Article 3. States procedure for joining and leaving ship	
1.4	Seafarer and ship owner organizations	0.75
	Understand the relevance of 1. Ship owners 2. Unions 3. Crewing agents	
1.5	Seafarer and the Law	1.5
	Has the basic concept of 1. IMO and ILO Conventions 2. Bangladesh Merchant Shipping Recruitment, Training and Certification Rules 3. Bangladesh rules relating to safety seafarers	
2	General Ship Knowledge	24.0
2.1	Common nautical terms	2.25
	1. Writes the definitions of common nautical terms e.g. dock, bridge, hold, hatch, tank, peaks, DB tanks, Ballast tanks, air pipes, bilge, anchors, windlass, winch, derrick etc. 2. Knows the application and relevance of these terms to ship	
2.2	Types of ships and layout	3.0
	1. Lists main classification of ships as passenger and cargo ships 2. Describes the purpose and main features of passenger ships 3. Lists the different types of cargo ships 4. Describes the different trades of cargo ships	
2.3	Operational mode of various types of ships	5.25
	Understands the operational mode of 1. Tankers 2. Solid bulk carriers 3. Roll-on / Roll-off ships	

Learning Objectives		
		Hours
	4. Container ships 5. General cargo ships	
2.4	Gears for various types of ship	3.75
	Understands the use of 1. Pumps and piping systems 2. Conveyor belt, extractors bucket. 3. Horizontal movement, trucks, forklift and trailers 4. Derrick and cranes	
2.5	Principal Features of a ship	3.75
	Knows the 1. Terms and definition related to ship's form	

	2. Names and functions of part of ship 3. Various section for specialized trade and carriage of cargo	
2.6	Principal parameters of ship stability	4.5
	1. Understands capacity, tonnage, dead weight, draught marks, sounding etc. 2. Understands capacity plan and location on board	
2.7	List of deck machinery	1.5
	1. Identifies all deck machinery 2. States the name and functions of various parts of deck machinery	
3	General Safety and Accident Prevention	19.5
3.1	Introduction	3.75
	1. List different shipboard hazards 2. Understands the dangers associated with enclosed spaces 3. States the general safety onboard ships 4. Explains the importance of safety organization onboard	
3.2	COSWP for merchant seamen	3.0
	1. Understands the principles of COSWP (Code of Safe Working Practice) for merchant seamen 2. Knows proper application of COSWP for merchant seamen 3. Understands the use of safety signs and labels	
3.3	Work Activities	3.75
	1. Lists the dangers associated with working aloft and outboard 2. States the safe use of portable ladders 3. Describes the general safety associated with the use of cradles, stages and bosun's chair 4. Explains the hazards associated with manual lifting and carrying 5. States safe procedures for manual lifting and carrying	

Learning Objectives

		Hours
3.4	Working tools	4.5
	Knows the hazards associated with and the safe use of 1. Portable power operated tools and equipment 2. Workshop and bench machines 3. Abrasive wheels 4. Hydraulic/pneumatic/high pressure jetting equipment 5. Electrical appliances including radio equipment	
3.5	Lifting plant	4.5
	1. States the general safety requirements for lifting appliances 2. Describes the safe use of winches and cranes 3. Understands the safety associated with the use of derricks 4. States how to test lifting equipment and report defect to a competent person 5. Recognizes the code of hand signals	

4	Cargo Work	25.5
4.1	Cargo handling equipment	4.5
	1. Identifies different types of cargo gears 2. Lists accessories of cargo gears 3. Knows how to rig lifting equipment and pipelines 4. Describes operation and control of gears	
4.2	General cargo	4.5
	1. Lists types of cargo carried, packaging and identifies associated hazards 2. Describes preparation and precautions prior to loading 3. States the safety precaution for heavy lifts and deck cargoes	
4.3	Liquid bulk cargo	4.5
	1. States the types of liquid bulk cargo carried including gas and chemicals 2. Explains general fire safety and pollution precaution for liquid bulk cargoes 3. Describes piping systems, pump room and tank washing arrangements for liquid bulk cargo ships	
4.4	Containerized cargo	3.75
	1. Lists different types of containerized cargo and states associated hazards 2. Describes different types of containers 3. Explains correct securing arrangements for containers	
4.5	Roll-on/Roll off cargo	3.0

Learning Objectives		
		Hours
	1. States the purpose of Ro-Ro ships 2. Identifies hazards associated with Ro-Ro Ships including flooding, inadequate ventilation and fire 3. Knows the use of truck fork lift and trailer movement	
4.6	Solid bulk cargo	3.0
	1. Lists different types of solid bulk cargoes and states associated hazards 2. States code of safe practice for solid bulk cargoes 3. Describes self-discharging systems	
4.7	Dangerous goods	2.25
	1. Understands the basic principles of IMDG code and associated manuals 2. States the classification of dangerous goods 3. Recognizes the dangerous goods labels	
5	Bridge Operation and Watch keeping	27.0
5.1	Lookout and watch keeping	3.0
	1. Describes the duties of an A.B. as efficient member of the operational team 2. Knows appropriate responses as A.B. in various situations	
5.2	Lights and shapes	3.0

	1. Recognizes different lights and shapes for navigational purpose 2. Interprets meanings of various lights and shapes 3. Understands the importance of exhibit lights and shapes	
5.3	Distress Signals	3.0
	1. Identifies distress signals 2. States response to distress signals 3. Understands the need to assistance	
5.4	Bridge equipment	2.25
	1. Identifies all bridge equipment 2. States function and use of all bridge equipment	
5.5	Compass	2.25
	1. Describes how to take and report compass and relative bearings 2. States how to change-over from automatic pilot to hand and vice versa	
5.6	Steering	13.5
	1. Understands the meanings of helm orders 2. Knows how to respond to helm orders 3. Able to steer a vessel on the simulator	

Learning Objectives

		Hours
6	Rope and Wire Work	27.0
6.1	Types of ropes and wires used on board	3.0
	1. Identifies various types of ropes and wires 2. Recognizes wire, natural ropes and synthetic ropes	
6.2	Properties and use of various ropes and wires	9.0
	1. States the properties and use of natural fiber, synthetic fiber and wire ropes 2. Understands the construction, safe working load, markings and measurement on ropes and wires 3. States and demonstrates the use of common knots, hitches, whippings and splicing	
6.3	Storage and maintenance of ropes and wires	3.75
	1. Describes proper storage procedures for ropes and wires 2. Demonstrates method of uncoiling, flaking and kinking out new coils of rope/wire 3. States proper method of rope maintenance and wire lubrication	
6.4	Gantlines and safety harnesses	5.25
	1. Demonstrates the proper use of gantlines, lizards and safety harnesses 2. States the precautions when working aloof and over side. 3. Demonstrates the use and inspection of slings and strops, snooters and legs	

6.5	Safe rigging practice	6.0
	Demonstrates ability to <ol style="list-style-type: none"> 1. Rig stages and bosun's chair 2. Sling machinery parts, use of tackles, purchases and chain blocks 	
7	Deck Operation	18.0
7.1	Mooring and anchor operation	6.0
	1. Explains the safe use to windlass and winches 2. Describes the general mooring arrangement including use of stoppers and making fast to bits 3. States anchoring terms, common types and operations 4. Describes preparation, letting go, weighing in anchor and accident prevention	
7.2	Pilot ladders and means of access	4.5
	Has knowledge of <ol style="list-style-type: none"> 1. Inspection, rigging and maintenance of pilot ladders and pilot hoists 2. Inspection, rigging and maintenance of gangways, accommodation ladders 3. Safety nets, side rails, stanchions, securing and portable ladders 	
Learning Objectives		
		Hours
7.3	Hatches and hatch covers	4.5
	1. Lists types of hatches and hatch covers 2. Understands method of securing and associated problems 3. Describes proper maintenance and checks	
7.4	Bow and stern doors, and ramps	3.0
	1. States types and uses of bow and stern doors and ramps 2. Describes correct method of opening, closing and securing 3. Explains checks on water tightness by the use of indicators and surveillance camera	
8	Port Duties	15.0
8.1	Arrival port duties	3.0
	1. Describes the safety preparation prior to arrival 2. Understands the importance to safety precaution and care required for different cargo types on arrival port including liquid cargo	
8.2	Departure port duties	3.75
	1. Describes the safety preparation prior to departure 2. Describes proper securing arrangements of cargo and ship equipment	
8.3	Watch keeping in port	3.75

	Understands the duties with regards to <ol style="list-style-type: none"> 1. Safety of crew, cargo and ship e.g. fire patrol etc. 2. Gangway and mooring e.g. safety nets, unauthorized personal etc. 	
8.4	Heavy weather preparation	4.5
	<ol style="list-style-type: none"> 1. Describes personal safety precautions in heavy weather e.g. rigging lifeline on deck etc. 2. Explains the extra securing arrangements of ship's equipment and gear 	
9	Ship Maintenance and Paint Systems	15.0
9.1	Corrosion in the marine environment	3.0
	<ol style="list-style-type: none"> 1. Explains the causes of corrosion as moisture, weathering, electro-chemical etc. 2. Lists the types of corrosion and common location on board ships 3. States the importance of painting to prevent corrosion 	
9.2	Surface preparation equipment and techniques	3.0
	<ol style="list-style-type: none"> 1. Describes different methods of surface preparation 2. Identifies different equipment used in surface preparation 3. Explains different techniques of surface preparation 	
Learning Objectives		
		Hours
9.3	Shipboard derricks and cranes	4.5
	<ol style="list-style-type: none"> 1. States the importance of good maintenance of derricks and cranes 2. Describes method of maintenance and checks of cargo handling equipment 3. Explain how derricks and cranes are tested 4. Understand the basic principles of planned maintenance of deck and cargo gears 	
9.4	Dry-docking	4.5
	<ol style="list-style-type: none"> 1. Understands the purpose of dry-docking a vessel 2. Lists general items inspected and repaired in dry docks 3. Describes safety precautions to be observed in dry docks 	
10	Communication	9.0
10.1	Radio Communication	2.25
	Understands the purpose and use of <ol style="list-style-type: none"> 1. Radiotelegraphs 2. Radiotelephones 3. EPIRB and SART 	
10.2	Shipboard communication	3.75
	<ol style="list-style-type: none"> 1. Lists all shipboard communication equipment and states their use 2. Recognizes all different alarms onboard ships 	

	3. Understands the importance of proper communication inside and outside ship	
10.3	Ship to shore communication	3.0
	1. Understands distress, urgency and safety messages 2. Describes the use of survival craft radio transceiver	
11	Engine familiarization	27.0
11.1	Machinery space layout	1.5
	1. Understands the purpose of machinery space 2. Describes the location and lay-out of machinery spaces 3. States that there are escape routes from machinery space 4. Defines bulkhead, platform, tank-top, cofferdam, bilge, duct keel, shaft tunnel, ventilators, flaps, drains and watertight door	
11.2	Items in the machinery space	9.0
	Identifies and states the purpose of 1. Engines 2. Pumps 3. Compressors 4. Boilers and incinerator	

Learning Objectives

		Hours
	5. Purifiers 6. Pressure vessels 7. Heat exchangers 8. Fresh water generators 9. Pollution Prevention equipment 10. Miscellaneous	
11.3	Tanks	3.0
	1. Understands the functions of tanks 2. Lists the types and names of different tanks common to any ship 3. States the common features of tank 4. Describes the procedure to take sounding of a tank	
11.4	Propulsion system	2.25
	1. Understands propulsion arrangements for ships 2. States that the main propulsion engine may be a slow speed diesel engine, a medium speed diesel engine or a steam engine 3. Describes the shafting arrangement from main engine to propeller 4. States the function of stern tube 5. Describes the function of a prop	
11.5	Piping systems	3.0

	<ol style="list-style-type: none"> States the functions of cocks and valves Identifies different types of valves Explains why all valves should be correctly operated and maintained in good order Knows that joining /gaskets/rubber rings are essential for flange connections States the functions, types and applications of filters and strainers Lists the piping systems of engine room Identifies the colour coding of the different piping systems 	
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11.6	Power generation	1.5
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	<ol style="list-style-type: none"> Understands basic different between A.C. and D.C. systems Identifies diesel-generators, turbo-generators and shaft generators. Demonstrates how to parallel two generators and distribute loads evenly Describes emergency power supply arrangements on board ships. 	
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11.7	Steering gear	2.25
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	<ol style="list-style-type: none"> States the function of a steering gear Understands a simple sketch showing working of a steering gear system Explains the purpose and procedure of emergency steering States the checks and tests carried out on steering gear prior departure and arrival port and also at sea 	
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Learning Objectives

		Hours
11.8	UMS (unmanned machinery space) operation	1.5
	<ol style="list-style-type: none"> Understands the difference between manned and unmanned watch keeping States the requirements for unattended machinery space Aware of the safety measures for entering machinery space during unattended period. 	
11.9	General safety in machinery space	3.0

	<ol style="list-style-type: none"> States the risk involved and precautions to be taken in isolating part of a liquid pressure system e.g. hot oil, seawater, hydraulic medium etc. States the risks involved and precautions to be taken in isolating part of a gas pressure system e.g. steam, compressed air, refrigerant etc. Describes proper procedure for electrical isolation of components /systems Identifies the hazards of engine room. States the importance of personal safety gears for working in the E/R 	
12	Visits	13.5
12.1	Ship	4.5
	<ol style="list-style-type: none"> Guided tour of ships available in Chittagong port 	
12.2	Dry-dock	4.5
	<ol style="list-style-type: none"> Supervised visit to the Chittagong dry-dock 	
12.3	Workshop	4.5
	<ol style="list-style-type: none"> Guided tour of BSC Marine Workshop or other suitable marine workshops 	
13	English	34.5

13.1	Spoken English	27.0
	<ol style="list-style-type: none"> 1. Knows how to greet, show etiquette, order, request, question and use verbs 2. Uses pronouns, prepositions, correlatives, active and passive voices, temporal, emphasis, countable, nouns and idiomatic sentences correctly 3. Makes sentences of invitation, meeting, parting, gratitude, congratulations, good wishes, refusal, relating to meals, permission, encouragement, consolation, affection, negation, consent, apologies and annoyance 4. Understands the common terms regarding health, doctors, hospitals, animals, games, post office, restaurants, shopping, transport, law, drugs and contraband items, police, immigration and all day to day affairs 5. Knows correct spelling, pronunciation, abbreviations and phrases 6. Understands common words and terms used onboard by multinational crew 	

6. Entry Standard, Selection Criteria of Students:

Passed secondary School Certificate

Age limits: 16-20 years.

7. Intake limitation, with specific mention Instructor-student ratio:

For practical Exercises student/teacher ration should not exceed 10:1

8. Qualification and experience of instructors:

Minimum qualification of any instructor must be class 4 Deck officers Certificate of Competency or equivalent with relevant sea experience.

9. Qualification and experience of assessors: The practical exercises must be conducted and achievement of competency must be assessed under the supervision of a retained or serving fire fighter (or a person with equivalent qualifications and experience). The person conducting the practical training must be in possession of a recognized First Aid qualification. The ratio of staff to students for the practical exercises involving live fires or the use of breathing apparatus should not exceed 1:8.

10. Details Facilities & Equipment, materials and resources available for the training; Visual aids lecture Notes, Library facilities, Rental documents, Workshops Training Equipment: Navigational, Engineering, Communication, Seamanship etc:

Normal classroom facilities with an overhead projector must be available. VCR, television and instructional videotapes are highly recommended. The demonstration room/laboratory will be required to contain the following items/models of items cross- sectioned for inspection or poster size drawings/photographs of the same so that the main components are visible:

- I. Navigational Bridge equipment.
- II. Modern derricks and cranes.
- III. Mooring and anchoring equipment.
- IV. Various types of vessels.
- V. Tools, cargo slings and cargo handling equipment.
- VI. Copies of COSWP for Merchant Seamen and labels for dangerous good.

11. Conduct of Training with number of classroom lectures, practical work use of simulator, video etc:

To be incorporated.

12. Total duration of Training; Duration of Practical's:

Total- 270.0 hrs.

Practical- 36.75 hrs.

13. Assessment procedure, whether independent of instruction or continuous performance evaluation:

Short answer, multiple choices, fills in the blanks, hot spot, true/false and sketch labeling type questions in a written test are used for assessment. Practical assessment includes direct observation, oral questioning, role-play and demonstration of ability under realistic situation.

14. Formats of certificate to be issued with correct reference to STCW and reference to approval and authorization by the Department of Shipping and contact point of the issuing institution for verifying authenticity:

Cert No : 2017.02.000099.R

DoS No : 2017.02.000099.R

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH



ন্যাশনাল মেরিটাইম ইন্সিটিউট NATIONAL MARITIME INSTITUTE

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PRE-SEA(DECK) RATING TRAINING CERTIFICATE



This is to certify that,

Mr. AQIB AHMED Son of Mr. AKHTER SARWAR Date & Place of Birth **29-Jun-1998** & **KHAGRACHARI** has successfully completed a course on PRE-SEA(DECK) RATING TRAINING CERTIFICATE conducted at the National Maritime Institute, Chittagong, Bangladesh.

from **01-Feb-2017** to **24-Aug-2017**

The course is in conformity with the regulation II/4, paragraph 2.2.2 of the International Convention on Standards of Training, Certification & Watch keeping for Seafarers, 1978 as amended and has the approval of the Department of Shipping, Government of the People's Republic of Bangladesh.

Date of Issue : **28-Sep-2017**



Signature of the Holder

Principal

to verify this certificate visit- www.nmi.gov.bd

15. Maintenance of records in Data-base for facilitation of checking including assessments:

NMI will maintain a data-base of all the students who have completed the course. The following records for each individual will be kept so as to ensure that the certificate is issued to a candidate who has met the requirements as laid down by the governing authority regarding issuance of a certificate on Bridge Resource Management.

- Application form
- Assessment papers after completion of course
- Attendance Sheet
- Attested Xerox copy of the issued certificates & licenses
- A registered data-base in hard copy and soft form

16. Internal Quality Standard System if any. Students Impressions, past results:

The institute maintains quality standard system ISO 9001:2008, Certified by DNV GL

17. Course notice served, course conducted as per course notice, progression report served:

Will be complied as per DOS Instruction.

18. Attendance of Students and Instructors:

Students and Instructor attendance sheet attached.



Annex- 03

NATIONAL MARITIME INSTITUTE

TRAINING RECORD

Instructor:

Venue:

Subject:

Brief description on training material:

Attendance:

Signature
Management Representative

Signature
Principal