

# Part A

## Course Framework

### ■ Scope

This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-III/4 as required in the Regulation III/4 of the 1978 STCW Convention, as amended.

### ■ Training Outcomes

Upon completion of this training course, the trainee must be able fulfill the requirements of Table A-III/4 of the STCW Code which provide for competence in their actual duties and responsibilities.

- Carry out a watch routine appropriate to the duties of a rating forming part of an engine-room watch;
- Understand orders and be understood in matters relevant to watchkeeping duties;
- For keeping a boiler watch: Maintain the correct water levels and steam pressures; and
- Operate emergency equipment and apply emergency procedures.

### ■ Entry Standards

This training course is intended for individuals who shall seek for certification of ratings forming part of an engine-room watch

### ■ Course Certificate

On successful completion of the training and course assessment, a Certificate of Completion shall be issued as evidence of fulfilling the mandatory minimum requirements and competences as specified in Regulation III/4 of the STCW Convention.

### ■ Course Intake Limitations

The course intake shall not exceed 24 participants in a class. Practical training should be conducted in laboratory/training site utilizing relevant tools, equipment in conjunction with the man-machine ratio of 2:1

## ■ Staff Requirements

The qualifications of the Instructor, Supervisor, and Assessor should be in accordance with requirements laid down in Section A-I/6 paragraphs 4, 5, 6 or 7 of the STCW Code.

MTIs shall ensure that their qualifications are in accordance with STCW Circular 2014-04, Rules on the Accreditation of Instructors, Supervisors, and Assessors of Approved Training Programs (ATPs) Conducted by the Maritime Training Institutions (MTIs).

## ■ Course Assessment

In determining the achievement of required competence Column 1 of Table A-III/4, the assigned course assessor shall be guided by the criteria for evaluating competence in Column 4, intended learning outcomes stipulated in Detailed Teaching Syllabus and Assessment Manual.

## ■ Training Facilities And Equipment

For the theoretical part of this program, the institution offering this training program shall provide a classroom with multimedia, whiteboard and paraphernalia needed and other facilities for practical demonstration. This does not however prevent MTIs from utilizing additional teaching facilities to support learning.

The following equipment shall be available in the conduct of practical exercises:

1. Engine Room Simulator equipped with the following:
    - Synchronization lamp (1)
    - Kw meter (1)
    - Frequency meter (1)
    - Ground lamp indicator (6)
    - No fuse breakers (1)
    - Ammeter (1)
    - Selector switch for generators synchronization (1 each)
    - Electrical power distribution system (1 each)
  
  2. Engine Control Console with:
    - Pressure gauges for air, steam water, oil (1 each)
    - Temperature gauges for water, steam, exhaust gas, provision rooms (1)
    - Liquid level gauges (1)
    - Start/stop button (1)
    - Main engine telegraph (1)
    - Speed/rpm indicator (1)
    - Rudder angle indicator (1)
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- Running lamps (1)
- Boiler control pane (1)
- Start/stop push buttons for motors (1)
- Diesel Engine log book (1)
- Sound powered telephone (1)
- Visual and sound alarm system (1)
- Ship list indicator (1)

## ■ Teaching Aids (A)

- Hand-outs
- CBTs
- Video tapes
- Audio Tapes

## ■ References (R)

- R1 International Maritime Organization (IMO). (2011). *International convention on standards of training, certification and watchkeeping for seafarers (STCW), as amended*
- R2 Introduction to Marine Engineering. D.A. Taylor, Revised 2<sup>nd</sup> Edition, Butterworth
- R3 Marine Auxiliary Machinery, H.D. McGeorge, 7<sup>th</sup> Edition, Butterworth
- R4 Code of Safe Working Practices for Merchant Seaman, HMSO, London
- R5 Marine Boilers, 3<sup>rd</sup> Edition, G.T.H. Flanagan
- R6 Marine Electrical Equipment and Practice, 2<sup>nd</sup> Edition, H.D. McGeorge

## ■ Textbooks (T)

- T1 Ship Safety Manual
- T2 Boiler Instruction Manual
- T3 Safe Working Practices (Engine Room)