

CERTIFICATES OF COMPETENCY FOR ENGINEERS (YACHT)

**EXAMINATIONS ADMINISTERED BY THE
SCOTTISH QUALIFICATIONS AUTHORITY
ON BEHALF OF
MARITIME AND COASTGUARD AGENCY**

**SMALL VESSEL CHIEF ENGINEER UNLIMITED
SMALL VESSEL CHIEF ENGINEER LIMITED**

059-01 - CHIEF ENGINEER STATUTORY AND OPERATIONAL REQUIREMENTS

FRIDAY, 16 November 2018

1400-1600 hrs

Examination paper inserts:

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Notes for the guidance of candidates:

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Materials to be supplied by examination centres:

Candidate's examination workbook

CHIEF ENGINEER STATUTORY AND OPERATIONAL REQUIREMENTS

Attempt ALL questions

Marks for each part question are shown in brackets

1. With reference to the International Safety Management Code (I.S.M.):
 - (a) state the THREE main objectives of the I.S.M. code; (6)
 - (b) describe the role of the *designated person ashore (d.p.a.)*. (4)

2. With reference to the MARPOL Convention Annex I:
 - (a) list SIX circumstances under which an entry must be made in the Oil Record Book; (6)
 - (b) detail the specific entries that must be made in the Oil Record Book following a routine overboard discharge of machinery space bilge water. (4)

3. As required by the STCW Convention:
 - (a) state THREE actions that the Officer in charge of an Engineering Watch undertakes when assisting maintenance, repair or emergency activities; (6)
 - (b) state TWO circumstances under which the Officer in charge of the Engineering Watch shall notify the Chief Engineer Officer without delay. (4)

4.
 - (a) State the main purposes of the International Labour Organisation (ILO). (4)
 - (b) List SIX areas where the MLC Convention applies to workers at sea. (6)

5.
 - (a) List FOUR examples of materials on board a vessel for which a Material Safety Data Sheet (MSDS) should be supplied. (4)
 - (b) List SIX items of information that could be obtained from a MSDS. (6)

6. With reference to a vessel's maintenance:
 - (a) list FOUR reasons why it is desirable for machinery to be covered by a planned maintenance system; (4)
 - (b) state FOUR reasons why unscheduled maintenance may need to be performed; (4)
 - (c) state ONE example of acceptable unscheduled maintenance. (2)

7. With reference to the classification survey of a vessel in dry dock:
- (a) list EIGHT separate items of the hull and associated equipment that would be examined by the surveyor; (4)
 - (b) describe TWO ways in which the thickness of a steel hull may be determined. (6)
8. (a) Describe the basic construction and operation of a Vertical Ship Lift. (6)
- (b) List TWO advantages and TWO disadvantages of a Vertical Ship Lift. (4)
9. (a) A vessel has two main engines each with a working sump lubricating oil capacity of 750 litres and an average daily consumption each of 3.5 litres at full power.
- Calculate the safe reserve lubricating oil requirements for a voyage of 2500 miles at a speed of 18 knots. (6)
- (b) State TWO factors that will need to be taken into consideration when calculating the fresh water requirements for an extended voyage. (4)
10. With reference to the use of a CO₂ flooding system:
- (a) list the precautions that should be taken before releasing CO₂ into the machinery spaces of a vessel; (4)
 - (b) state the length of time that should be allowed to elapse before re-entry into the machinery spaces can be considered, following release of CO₂; (2)
 - (c) state the precautions that should be taken before the machinery space can be safely re-entered, following release of CO₂. (4)