

## **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, 19 February 2021**

**1400-1600 hrs**

Examination paper inserts:

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Notes for the guidance of candidates:

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| <ol style="list-style-type: none"><li>1. Candidates should note that 100 marks are allocated to this paper. To pass candidates must achieve 50 marks.</li><li>2. Non-programmable calculators may be used</li><li>3. All formulae used must be stated and the method of working and ALL intermediate steps must be made clear in the answer.</li></ol> |
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Materials to be supplied by examination centres:

Candidate's examination workbook
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## CHIEF ENGINEER STATUTORY AND OPERATIONAL REQUIREMENTS

Attempt ALL questions

Marks for each part question are shown in brackets

1. Describe the procedure for using the local, emergency steering position, should the bridge control system become inoperative. (10)
  
2. With reference to the MARPOL Convention Annex I - Shipboard Oil Pollution Emergency Plan (SOPEP):
  - (a) outline FOUR minimum requirements that should be included in the plan; (4)
  - (b) describe the actions that should be taken on discovering an accidental discharge of oil during bunkering. (6)
  
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. With reference to the International Load Line Convention (ILLC):
  - (a) define *weathertight*; (2)
  - (b) define *watertight*; (2)
  - (c) state what a surveyor would check when inspecting a weathertight door; (2)
  - (d) describe what *Freeing Ports* are, explaining why they are important. (4)
  
5. With reference to the Code of Safe Working Practices for Merchant Seafarers guidance on *dangerous (enclosed) spaces*:
  - (a) list FOUR examples of a dangerous (enclosed) space; (4)
  - (b) outline the requirements to be satisfied before entering a dangerous (enclosed) space. (6)

6. With reference to the classification of a vessel:
- (a) describe how the *continuous survey of machinery* may be applied, stating the time interval over which the surveys take place; (4)
  - (b) list SIX types of machinery that would be inspected during a *continuous survey of machinery*. (6)
7. With reference to a vessel having no previous record of machinery maintenance:
- (a) describe how a new planned maintenance system could be set up; (6)
  - (b) list FOUR reasons for keeping records of all maintenance. (4)
8. (a) Define the term *harmonisation system of survey and certification*. (4)
- (b) With reference to a vessel of 500 gross tonnes or more and carrying 12 passengers, list SIX statutory certificates that are required to be carried out in order to demonstrate compliance with the IMO Conventions. (6)
9. (a) List FOUR factors that must be taken into consideration when determining the voyage requirements for a large motor yacht. (4)
- (b) A vessel has a gross fuel capacity of 250 tonnes, 12% of which is unpumpable. The combined average sea power load of the vessel is 2700kW and the quoted specific fuel consumption, at this power load is 0.32kg/kWh.
- Calculate the safe steaming range of the vessel at a speed of 15 knots. (6)
10. (a) Write standing orders detailing the procedures to be followed in the event of a severe flooding incident within the machinery spaces. (6)
- (b) List the positions of the four main watertight bulkheads on a typical vessel. (4)