

CERTIFICATES OF COMPETENCY FOR ENGINEERS (YACHT)

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

**STCW 95 CHIEF ENGINEER (REG. III/2) – “YACHT 2”
STCW 95 CHIEF ENGINEER (REG. III/2) – “YACHT 3”**

051-02 STATUTORY AND OPERATIONAL REQUIREMENTS

FRIDAY, 7 NOVEMBER 2008

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">1. Non-programmable calculators may be used.2. All formulae used must be stated and the method of working and ALL intermediate steps must be made clear in the answer. |
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Materials to be supplied by examination centres:

Candidate's examination workbook

STATUTORY AND OPERATIONAL REQUIREMENTS

Attempt ALL questions

Marks for each question are shown in brackets

1. With reference to the International Safety Management (I.S.M) Code:
 - (a) state the THREE principles upon which the I.S.M. code is established; (6)
 - (b) describe the role of the *designated person ashore*. (4)

2. With reference to the periodical dry-docking of a vessel:
 - (a) state FOUR reasons for dry-docking; (4)
 - (b) describe THREE methods of testing a hull for watertight integrity. (6)

3. With reference to the use of a CO₂ flooding system:
 - (a) list the actions that should be taken before releasing CO₂ into the machinery spaces of a vessel; (4)
 - (b)
 - (i) state the length of time that should be allowed to elapse, following the release of CO₂, before protected re-entry into the machinery spaces can be considered; (2)
 - (ii) state the actions that should be taken before allowing unprotected personnel to re-enter the machinery space. (4)

4. With reference to the International MARPOL Convention 73/78 Annex V pollution of the sea by garbage:
 - (a) list SIX special areas that apply to the disposal of garbage; (6)
 - (b) state the disposal restrictions that are placed on EACH of the following categories of garbage within the various special areas:
 - (i) timber and packaging materials; (2)
 - (ii) ground-up food waste. (2)

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5. With reference to *classification societies*:
- (a) list FIVE societies that are listed as members of the International Association of Classification Societies (IACS); (5)
 - (b) list FIVE separate types of machinery that are normally subject to Class survey. (5)
6. A vessel has bunkered 250 tonnes of diesel fuel of which 10% is assumed to be un-pumpable. The average combined sea load of the vessel is 2800kW with a stated specific consumption of 0.35 kg/kWh at a speed of 18 knots.
- Calculate EACH of the following:
- (a) the daily fuel consumption of the vessel; (4)
 - (b) the safe steaming range of the vessel. (6)
7. With reference to the STCW'95 machinery space watchkeeping requirements, state EACH of the following:
- (a) the purpose of *standing orders*; (3)
 - (b) FOUR examples of *standing orders*; (4)
 - (c) the circumstances under which it would be inappropriate for an officer in charge of an engineering watch to hand over responsibility to a relief watchkeeper. (3)
8. With reference to the ongoing machinery maintenance of a large motor yacht:
- (a) state FOUR reasons why reliance on breakdown maintenance is generally considered to be unacceptable; (4)
 - (b) list THREE examples of condition monitoring, stating the benefits of using condition monitoring as part of a planned maintenance system. (6)
9. The Code of Safe Working Practice for Merchant Seamen specifies that a Safety Committee must be formed on board.
- (a) State the FOUR people that have a legal right to sit on the committee. (4)
 - (b) State SIX of the functions of the committee. (6)

10. With reference to a vessel's seaworthiness:

- (a) state FOUR reasons why it is important to isolate a vessel into floodable lengths by using watertight bulkheads; (4)
- (b) state the precautions that should be taken, prior to departure from port, to reduce the risk of flooding. (6)