

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”**

054-02 ADVANCED HOTEL SERVICES AND SHIP CONSTRUCTION

FRIDAY, 30 NOVEMBER 2007

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

ADVANCED HOTEL SERVICES AND SHIP CONSTRUCTION

Attempt ALL questions

Marks for each question are shown in brackets

1. Describe, with the aid of a sketch, the procedure for *Liquid Charging* a refrigeration plant, stating all safety procedures and checks to be carried out. (10)

2. (a) List THREE physical properties that can be monitored to ensure that a sewage treatment plant is operating effectively. (3)
(b) Explain the tests carried out on TWO of the properties in Q2(a), to determine the concentration levels. (4)
(c) List the personal hygiene requirements for personnel operating and maintaining sewage treatment plants. (3)

3. Sketch a line diagram of a single stage reverse osmosis plant, labelling ALL components and indicating the direction of flow. (10)

4. Outline the preparation and procedures for dry-docking a vessel, to the point where the dock is fully drained. (10)

5. Explain the maintenance and inspection that should be carried out on SCUBA cylinders. (10)

6. (a) Explain TWO recognised ship construction procedures for connecting steel and aluminium. (7)
(b) State THREE disadvantages of using aluminium in ship construction. (3)

7. (a) Describe how the routine inspection for lifting gear is carried out. (6)
- (b) State the time periods between EACH of the following *Lifting Equipment* requirements:
- (i) inspection; (1)
- (ii) testing. (1)
- (c) Describe the procedure for recording the results of the inspection and tests. (2)
8. Explain the requirements for the stowage and operation of LPG cylinders. (10)
9. Describe the operation of an *Active Fin Stabiliser*. (10)
10. (a) Describe a system for controlling the relative humidity in an air conditioning system, by the use of recycled air only. (5)
- (b) Sketch the system described in Q10(a). (5)