

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/3) – “YACHT 4”

**057-02 OPERATIONAL PROCEDURES, BASIC HOTEL SERVICES
AND SHIP CONSTRUCTION**

FRIDAY, 30 MAY 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

OPERATIONAL PROCEDURES AND BASIC HOTEL SERVICES

Attempt ALL questions

Marks for each question are shown in brackets

1. With reference to risk assessment and the Code of Safe Working Practices for Merchant Seamen:
 - (a) explain the purpose of a risk assessment; (4)
 - (b) state the person responsible for carrying out the risk assessment; (3)
 - (c) explain what should be considered when carrying out a risk assessment. (3)

2. List TEN common log entries, excluding machinery temperatures, pressures and other parameters. (10)

3. With reference to Annex V of the MARPOL convention:
 - (a) list the THREE complementary techniques which are used to manage garbage; (3)
 - (b) list the information to be entered in the Garbage Record Book when garbage is discharged into the sea; (5)
 - (c) state the area in which no garbage whatsoever must be disposed of overboard; (1)
 - (d) state which form of garbage is prohibited from disposal into the sea. (1)

4. With reference to bunkering procedures:
 - (a) explain how the quantity of fuel delivered is checked allowing for temperature and density; (6)
 - (b) state the procedure to be followed, in the case of dispute about the quantity of fuel delivered. (4)

5. Sketch an approved aerobic sewage treatment plant, describing how it operates. (10)

6. With reference to safe storage and handling of refrigerant:
- (a) state where the refrigerant gas bottles should be stored; (2)
 - (b) state the weakest part of the storage bottle; (1)
 - (c) explain how it can be determined if refrigerant has been leaking from gas bottles; (1)
 - (d) state the TWO methods of recharging a refrigeration system, stating where the connection to the system should be made for EACH method; (4)
 - (e) state how excessive refrigerant should be removed from the system without infringing MARPOL regulations. (2)
7. List the important operations that should be included when organising fire drills. (10)
8. (a) Describe, with the aid of a sketch, a sprinkler head. (7)
- (b) Explain how the sprinkler head sketched in Q8(a) operates. (3)
9. With reference to air conditioning systems, state the meaning of EACH of the following terms:
- (a) heating load; (1)
 - (b) cooling load; (1)
 - (c) sensible heat; (2)
 - (d) latent heat; (2)
 - (e) absolute humidity; (2)
 - (f) specific humidity. (2)
10. With reference to the use of aluminium alloy in superstructures:
- (a) describe the problem arising from bolting or riveting the aluminium superstructure to the steel hull, stating the method used to try and minimise the problem; (5)
 - (b) describe the explosion method of bonding the aluminium superstructure to the steel hull. (5)