

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, 27 FEBRUARY 2009

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 Code of Safe Working Practices for Merchant Seamen:
 - (a) list THREE examples of an *enclosed space*, stating the particular hazards that may be present within EACH space; Black water tank sharps, mefane gases, almoner, hydrogen sulphide. CO2 gases (6)
 - (b) Medium speed diesel engine, crank case, (4)
 - (c) Fuel tanks. Fuel varpors, lack of oxygen, (4)
 - (b) list TWO instruments commonly used for testing the atmosphere of an enclosed space, stating typical *safe* readings obtained from EACH instrument.

2. With reference to a vessel's stability:
 - (a) describe *free surface effect*; (4)
the movement of liquid that causes a transfer of weight, changing the state of GM of the vessel. (6)
 - (b) describe, with the aid of sketches, the action of free surface on a vessel's stability.

3.
 - (a) Describe the operation of a typical planned maintenance system on board a large motor yacht. A engine room data base that includes machinery with clandedered dates and running hours to which machinery needs rotine maintenance performed on a certin date or running time expires. (6)
 - (b) Explain, with the use of examples, how monitoring the condition of machinery may help to avoid unnecessary overhauls. Oil samples, temperature monitoring, , filter inspections, noise monitoring (4)

4. With reference to regular classification surveys of vessels:
 - (a) describe the circumstances under which a *condition of class* may be issued; because of a defect where the vessel would be aloud to proessed to a repair or yard to fix in the defect as soon as possible. (6)
 - (b) describe the normal procedure for removing a *condition of class*. (4)

5. With reference to MARPOL 73/78 Annex 1:
- (a) list FIVE special areas; red sea, black sea, antractica,carribean, gulf of Aden, medertrain sea. (5)
 - (b) state the restrictions that are in force within the special areas listed in Q5(a). Discharge of oily water or oil, garbage discharge, sewage discharge, sulphur content in diesel fuel level lower than .01% (5)
6. As Chief Engineer Officer, detail the standing orders that should be issued regarding the necessary precautions that should be taken to avoid machinery space fires. Standing orders, No fire loops to be isolated, smoke and fire heads to be tested weekely, no oily rags to be left in workshop or bilges, waster bins to be emptyed every night, all save all's to be kept dry.all flamible liquids to be stored in the paint locker. All fuel leaks to be repaired, fire extinguishers to be un unstructured. All bilges to be maintain oil free and clean.no smoking in machinery space. (10)
7. With reference to dry docking procedures: removal of trash,
- (a) list SIX items of information that would need to be passed to the contractors prior to arrival at the dry-dock facility; docking plan, shell expansion, voltage type and freq., size of sewage flange, size of flange for sea water supply,communications, fire service supply (6)
 - (b) state why it is normal for a vessel to be trimmed by the stern when entering dry-dock. Because it is the strongest part of the vessel and is touch down first. (4)
8. (a) List FOUR items of information that could be used to determine the fuel requirements for a large motor yacht. time required to get there, pervous fuel consumptions for differan't distances and speed, weather. Displacement. Fuel capacity (4)
- (b) A vessel has been delayed on passage by heavy weather and no longer has sufficient fuel to make its destination at the current speed. List SIX actions that could be taken to safeguard the vessel. Slow down, divert to nearest port, go down to one engine, turn back, notify DPA person ashore, reduce vessels generaor load requirements to converse fuel. (6)
9. (a) The Maritime and Coastguard Agency (M.C.A.) gives guidance to vessels by means of 'M' notes. Distance, , State the THREE different types of 'M' notes, explaining the purpose that they serve. (6)
- (b) List FOUR Conventions produced by the International Maritime Organisation. (4)

10. With reference to the safe use of lifting plant:

- (a) state FOUR safety requirements that need to be complied with before an item of lifting plant can be safely used; (4)
- (b) state the periodic inspection and testing requirements for an item of lifting plant; (4)
- (c) state where the results of inspections and testing are recorded. (2)