MCA Yacht 3/2 – Chief Engineer Statutory and Operational Requirements – Examination February 2008.

1. With reference to a yacht tender launching and recovery lifting appliance:-

   a) state FOUR safety requirements that need to be complied with before the rig can be safely used; check equipment before lifting to insure safe operation. Insure the operator understands all safety procedures and manufactors recommendations. (4)

   b) state the periodic inspection and testing requirements for the rig; gets inspected every time used, gets tested every 6 months gets tested every year, and tested every 5 years. (4)

   c) state where the results of inspections and testing are recorded. In the chain regester. (2)

2. With reference to maritime administration:-

   a) explain what is meant by the term **port state inspection**; Is the flag state and local port rules and laws of that state/port the vessel is in at the time. You must comply to local and state requirements while in there area.(4)

   b) list the circumstances that could instigate a non-routine port state inspection. Anything can interacted an non routine inspection. Expired radio licesnce, laws brokin, oil spill, if the port patrol sees something. Stow aways. Gross misconduct by the crew. (6)

3. With reference to condition monitoring:-

   a) state how vibration analysis can be used as part of a planned maintenance system; can be used where by differn't sets of vibration sets are trended and monitored over a period time to reduce down time of maintence (4)

   b) list SIX tests that can be carried out on generator crankcase oil in order to determine its suitability for further service. Lube oil analysis, separation testing,flow stick tester,, crackel test,finger test,spot test. TBN test, oxidation products (6)

4. With reference to machinery watch-keeping:-

a) list FIVE responsibilities of a watch-keeper; comform to standing orders, make sure all safety equipment is working, responsible for crew in convined spaces, know how safety equipment works, responsible for engine room area while on watch (5)

b) state the procedures that should be followed when attending a machinery space under U.M.S. conditions.

Set dead man alarm.
Answer the alarm.
Inform bridge of time to address the problem
Reset dead man alarm every 20 mins or before it expires
Finish fixing problem
Exit machinery space and turn off dead man alarm.
Return to your cabin or crew mess, inform bridge you are finished in the macherny space and dead man alarm is off (5)

5. a) A vessel has no record of past fuel consumptions.

Calculate the safe bunker requirements for a forthcoming voyage, given the following data:-

Displacement	350 tonnes
Range	2500 nautical miles
Speed	20 knots
Fuel coefficient	49,000

Fuel consumption (squared) x volume(20knots)

490000

47.76 x 8000

8.4 tons per day

20 divied 2500 = 125 divied 24 hours = 5.2 days (6)

b) state TWO actions that could be taken if it is found, during the subsequent voyage, that part of the fuel is contaminated. Slow down and divert to nearest possible port for refueling. (4)

6. With reference to the classification of vessels:-

a) state what is meant by the term **condition of class**;when something does not meet class requirements, a time frame is given to fix the problem to bring it back into class requirements. (4)

b) state a typical time period over which a condition of class may be imposed; anything that makes the vessel not in compliance of class. Any safety equipment not up to code or service. (2)

c) list TWO circumstances under which the society would be entitled to withdraw class. (4)

7. With reference to the International MARPOL Convention 73/78 Annex V – Garbage handling:-

a) list SIX defined categories of garbage; page 94 book notes
plastics
floating material
paper,rags,glass
food waste
Incinerator ash (6)

b) list FOUR garbage handling procedures that require an entry in the garbage record book.date time of discharge
location of vessel
amount discharged
type of garbarge
signed off by officer (4)

8. With reference to fuels, state the meaning of EACH of the following:-

a) flash point; lowest limit will ignite with an external flame (2)

b) self ignition temperature; temperature where it will ignite by itself without an external flame 2)

c) upper explosive limit; when the mixture gets to rich and cannot explored due to an inblance between fuel and air (2)

d) lower explosive limit; when the mixture gets to lean and cannot explored due to an inblance between fuel and air

e)vapour density. (2)

9. With reference to the classification of bulkheads:-

a) state FOUR categories of A-class bulkhead; A-60 rated

(4)

b) describe the parameters that are used in order to determine the category of an A-class bulkhead; A-60 A-30 A-15

(4)

c) list TWO examples of the location of A-class bulkheads on a large motor yacht. Forward engine room bulk head and the collision bulk head forward (2)

10. With reference to the dry-docking of a large motor yacht:-

a) state FIVE precautions that should be undertaken before the vessel enters the dock;

trimmed by the stern

make sure all fuel or ballast transfers have taken place. Sucure all deck equipment. Insure blocking is done to ships docking plan. Insure anchors,rudders,stableises and in docking poiston. (5) page 393 PDF Notes

b) list FIVE routine maintenance activities that would be undertaken while the vessel is in dock. All main though holes removed inspected, stern gear inspected, rudder inspected and zink andoies, end for end anchor chain. Inspect stabilizers.

(5)