Class 2 Oral Exams

7th April 2015 @ AMSA Fremantle

Candidate: [Redacted]

Examiner: Kin Yum

Time: 2 hrs 20 plus 10 min's going over exam

Result: Pass (1st attempt)

A mention to candidates, you may feel like you are failing but don't give up (I felt this about an hour into the exam) and was pleasantly surprised with a pass in the end.

Try and practice with a friend to get your confidence up. He seems to really get stuck into electrical and fire/safety questions in particular and be sure you are up on top of all the A1 Questions too otherwise you will fail immediately if you get one of these wrong.

1) You have joined the vessel as either 1st Engineer or 2nd Engineer. Where do you find out where your duties are
2) You have joined a vessel as 1st Engineer, describe the handover procedure
3) Asked about what I knew about Marpol, and asked about sewage discharge from the vessel
4) Sketch and describe operation of Biological treatment plant with direction of flow.
5) What is an International sewage connection and where is it located
6) Asked about NOX
7) How is NOX controlled
8) How do you know if ship meets requirement (NOX)
9) What certificates are covered under Marpol Annex 6 (Air Pollution)
10) Asked about SOX emissions and what determines these emissions
11) Limits on SECA inside and outside of SECA areas.
12) What Marpol annexes apply to bunkering
13) Cargo safety Construction Survey, What are the items that are checked under this survey
14) What other machineries are covered under Annex 6
15) What are the rules about the incinerator
16) What does the IOPP cover and what does the IOPP supplement for
17) Write entry into qll record book (Bilge water pumped from the Bilge water holding tank overboard using a 15 ppm OWS)
18) What are the safety devices on the switchboard
19) How do you know if you can parallel 2 Alternators to the switchboard
20) What is reverse power
21) What safety devices on the switchboard to protect us from reverse power
22) What are the consequences of running an alternator in reverse power
23) Typical reverse power trip point for Diesel Alternator
24) Typical reverse power trip point for Steam Turbo-Alternator
25) Why is the reverse power trip for Steam Turbo Alternator point higher
26) Show a phasor diagram the relationship when synchronising generators
27) What are the angles and magnitudes marked on the phasor diagram indicate
28) Draw 2 machines running in parallel on a diagram showing sine wave diagram
29) Sketch a describe synchro light method of synchronising
30) Sketch and describe how synchroscope is wired in to the switch board
31) How do you synchronise if both the synchroscope and synchro lamps are out of service
32) Sketch and describe a portable CO2 extinguisher with all of its safety aspects
33) You have an electrical switchboard fire (smoke coming out of the switchboard panel) How do you go about using the CO2 extinguisher to attempt to extinguish it safely
34) The Master/Chief Engineer has released the CO2 from the remote release cabinet and has asked you to get a Fire team together and make sure that the CO2 bottles have released correctly
35) You have a fire in one of the cargo holds, How do you know which valves/bottles to open and how many bottles to open
36) What are the SOLAS requirements for CO2 bottles (Drench system)
37) Sketch an International shore connection and explain how you use it
38) How do you connect it to supply fire mains pressure in a dry dock/ship yard
39) All the Fire hoses are destroyed on the vessel, how do you connect the international shore connection to the fire mains
40) What happens to the Engine room fire mains in a fire
41) What is the correct order of valves to open when remotely releasing CO2 into the machinery space
42) Why is the main distribution valve opened first
43) What if the accommodation fire mains melts down and you lose fire mains pressure, What do you do
44) What is the fuel tank vent arrangement and why
45) Reason for siphon tube in a CO2 bottle
46) What determines the structural integrity of the Engine Room in a fire
47) What class bulkheads are between the Engine Room and Accommodation
48) Sketch a main engine fuel system from service tank to main engine showing typical temps and pressures in the system
49) Sketch a fuel system from settling tank to service tank
50) How is the sludge separated from HFO from the bottom of the tank (Method)
51) What is the difference between a Purifier and Clarifier
52) Explain me how to start up a HFO Purifier
53) Crankcase Inspection, What do you look for and safety aspects
54) Scavenge space fire, What are your actions
55) After scavenge space fire it is out what do you do after the main engine is stopped
56) Air Start valve is leaking, What do you do
57) If a bursting disc burst whilst you are manoeuvring what do you do
58) Explain how a flame arrestor works
59) Main Engine crankshaft construction, tell me what you know about it
60) All safety devices in the air start system
61) Explain how an air line explosion can occur
62) You close the water and steam cock and open the drain cock on the gauge glass and no water comes out, What are your actions
63) The automation has failed on the boiler, What is the manual procedure for starting of the boiler
64) How is the steam pressure/ temp maintained on a motor ship utilising an Exhaust Gas Economiser
65) Sketch how fuel is recirculated form the boiler burners back to the service tank when the boiler is not running
66) Reason for accumulation test on safety valves