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PAST PAPERS

Faculty	Department / Section/Division
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Past Papers

Faculty of maritime science
Department of Marine Engineering
Engineering Class II
(Orals)
2015-2022

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Candidate: W.G.D Fernando

Examiner: Mr. Yapa

1. What types of ships have you sailed on? (Chemical Tankers) What is the BHP & GRT of your last vessel?
2. What are the special construction features of a chemical tanker?
3. What is the purpose of freeing ports/scuppers/Low freeboard in a chemical tanker?
4. What are the measures provided for protection of crew on deck onboard a chemical tanker ?
5. What is the construction of tanks in chemical tankers? (Material/Cladding/Coating/Tank segregation distances to be explained)
6. How does corrosion occur in tanks in a chemical tanker? What are the types of corrosion found in such tanks?
7. In which prominent areas? (Asked to explain Galvanic/Anaerobic/pitting/erosion corrosion with chemical equations)
8. What are the firefighting measures provided on chemical tankers?
9. What are the regulations pertaining to that?
10. Why high expansion foam cannot be used on deck? What type of foam was used on board your vessel? (Technical Specifications)
11. Draw a power supply diagram to your ship's deck foam pump.
12. What are the special features of electrical cables used on chemical tankers?
13. What are the common difficulties faced during power transmission on deck in chemical tankers?
14. What factors do you consider when ordering electrical cables for a chemical tanker vessel?
15. What are the propeller types known to you?
16. What are the materials used in ship's propellers?
17. What are the dimensions of your ship's propeller?
18. What is a highly skewed propeller?

19. What are the operational difficulties faced when using a controllable pitch propeller?
20. What are the SOLAS regulations pertaining to steering gear? (Special attention to regulations concerning chemical tankers)
21. Why the regulation requires timing for 35 Port to 30 starboard instead of hard port to hard starboard?
22. What is the mechanism used to transmit rudder angle from steering gear compartment to bridge? (Syncro controller) Explain the principle.
23. Explain the Emergency Maneuvering procedure as a second engineer. How often do you carry out emergency steering drill?
24. What was the Main engine type onboard your last vessel? (MAN B&W 6S50 MC-C)
25. Explain the procedure of power generation in Main engine units and how it's transmitted up to the propeller?
26. What was the transmission method between crankshaft and camshaft? (Chain drive) How the timing between both shafts was maintained? What were the gear/sprocket wheel ratios?
27. Explain the Chain case inspection procedure. (Safety/Areas checked/Clearances measured – Full procedure as per manual was asked)
28. What are the other items found in chain case apart from chain drive? (Moment compensators and counter weights)
29. What are the materials of Gear/sprocket wheels and chain links? Which parts wear faster and why? (Answer expected from Metallurgy knowledge)
30. Draw a chain link and explain which parts are stationary/Rotary.
31. How do you replace individual links of timing chain? When do you decide to do that?
32. Explain the timing cycles of both two stroke and four stroke engines.
33. What are the key functions under STCW III/2?
34. What are the competencies under STCW III/2?
35. Explain shaft generator principle. Give advantages and disadvantages.
36. Why can't we use shaft generator when speed is fluctuating?
37. What are the special constructional features of shaft generator Alternator?

38. Why in normal circumstances shaft generator is unable to synchronize along with conventional generators onboard? (Detailed explanation with droop characteristics were expected)
39. What are the surveys pertaining to ship's electrical system? What are the electrical survey items?
40. List Safety construction survey items.
41. Why load line convention is required?
42. What are the 1966 and 1988 amendments to Load line convention?
43. What are the conditions of assignment under load line?
44. What is type A and type B ships under load line? What are the special conditions of assignment for tankers?
45. Who's the load line assigning authority? How is a load line assigned to a ship?
46. Why sometimes multiple load lines are required for a ship?
47. What is Position 1 & 2 related to load line convention?
48. As a second engineer explain how are you going to Improve SEEMP onboard. Who's in charge of formulating SEEMP for a particular vessel?
49. How do you calculate attained and required EEDI?
50. What are the details found in EEDI technical file?
51. What are the new developments used on your company to improve SEEMP?
52. What is the purpose of piston rings?
53. Which wears faster piston rings or liner? (Explain from metallurgical knowledge)
54. What are the factors related to wear of both piston rings and liner?
55. Explain the procedure for Under piston inspection. (Only which areas to be checked)
56. What are the usual wear rates for cylinder liner in your last engine?
57. When do you decide to change the liner of an engine? (Values from manual were required)
58. When do you decide to change the piston rings of a unit? (Values from manual were required)
59. What are the cam profiles you know of? Draw and explain the difference between cam profiles of exhaust and fuel cams of your previous engine.

60. What are the engine reversing methods known to you? What was the engine reversing method of your previous vessel?
61. What are the control systems known to you?
62. What is range? What is dead band? Why dead band is required?
63. What is the range of your conventional jacket water control system?
64. What is multi term control system?
65. Draw a multi term control system suitable for a boiler. Explain.
66. What is cascade and split range control?
67. What is the use of square root extractor? Why can't we directly use the DP value?
68. What is the purpose of an orifice plate in such a system?
69. What is a moment compensator?
70. Explain why a moment compensator is required for an engine. (Explain with inertia forces)
71. What is second order moment?
72. What is the difference between first order and second order?
73. What is the speed difference between moment compensator and engine?
74. What are the suitable locations for moment compensators in an engine? Why?
75. What is a detuner? Purpose?
76. Explain how it's able to change natural frequency of engine using a frequency-RPM graph.
77. What is an IS Barrier?
78. Draw and explain why an IS Barrier is required for power transmission into hazardous zones.
79. How does a zener diode work?
80. What are the Ex codes related to electrical safety?
81. What is the specialty of tools used with such Ex measures? How do you identify such items?
82. Advise ship's electrician on how to carry out a repair/replacement of an electrical component in a hazardous zone. (Full procedure for both open deck and enclosed space)
83. The hydrocarbon content of work space isn't coming below 2%. What are your actions as a second engineer?

84. What is redundancy?
85. What are the competencies related to an officer in charge of an engineering watch?
86. How do you train ship's wiper to become a motorman?
87. Both the motor men in engine room are having a fight. As a second engineer what is your action to handle such a situation? Explain.
88. Explain how you are going to train your cadet. (Cadet training procedure)
89. How does cadet's training record book originate? Who's in charge of approving the record book?
90. Ship's SMC certificate is found to be expiring in another month's time. But the ship has already started a two month voyage. Explain your actions to rectify the situation.
91. What is a mast riser? Why it's required?
92. What is the use of a slop tank?
93. What is the onboard procedure for discharge of slops?
94. Can you mix cargo residue along with slops and discharge? How do you discharge cargo residue?
95. What are the regulations pertaining to ODME discharge?
96. What is ORB Part II? Where do you find the format for oil record book? Who authorizes/approves the ORB found onboard your ship?
97. Why enhanced survey is required for tankers?
98. How is the enhanced survey integrated into your ship's survey system?

ED Class II orals.

Kalana dias

1. Tell me about yourself?
2. What are the questions have you failed to answer last attempt?
3. Tell me about MLC?
4. What are the requirements for crew cabins?
5. Tell me about ISM?
6. Your incinerator had a malfunction what would you do?
7. How do you carry out normal operations without incinerator?
8. There are no reception facilities provided by the ports. What would you do?
9. How do you transfer sludge to other tank?
10. Where it is mentioned?
11. What is your competence?
12. How do you mange garbage onboard?
13. How do you implement garbage management plant?
14. How do you made a record in garbage record book?
15. How do you ensure your garbage management plan is working orderly?

16. Tell me how do you overhaul big end bearing in a 4 stroke engine as a 2nd engineer?
17. Draw an electric diagram showing how power comes to bearing temperature sensor from the generator and how it is showing the indications?
18. From the diagram, explain how does generator get connected to MSB?
19. Explain the diagram?
20. Your cadet had a severe burn what are your actions?

I can pass you. You have enough competence to work as 2nd engineer .

Ed 3

candidate :- T.D.C. Dharmasena

Class II (OraLS)

1. What type of ships your sailed ?
2. What is the capacity ? Horse power ?
3. efine IOSGOME C.9.2 ?
4. What are the incidents your last vessels ?
5. Indication of scavenge fire ?
6. What is slow streaming rpm your vessel ?
7. What is MCR rpm ? NCR rpm ?
8. Draw Liner wear with graph ?
9. What are the function of SRCW for 2nd Engineer ?
10. What are the competencies ? column 1
11. What is column 2 for monitoring control legislative reg. measure to ensure ..... ?
12. What is SO_x reduction methods ?
13. What is sulphur content of ECA ? Now values ?
14. What is before values ?
15. What are '' : years for SO_x ?
16. What 's the new regulation of SO_x ?
17. How many special areas for ECA ?
18. What is RCW ? Have you been go there ?
19. RCW Regulation ?
20. What you mean vessel general permit ?
21. What 's obtain in VGP ?
22. How you evaluate Electrical Officer performe duties ?
23. What are the distribution system on board ?
24. How connecte distribution system 440v ?
25. What 's NO_x areas ?
26. What 's NO_x values ?
27. What is Tier I, Tier II, and Tier III ?
28 What is annex III ?
29 Annex III included ?

30. Where you can find dangerous cargo container? by manifest ship office.
31. What is that?
32. What are the things carried out as 2nd Engineer on board carri Dangerous cargo?
33. Container fire what action as a second engineer?
34. How you check B.A set?
35. What did you mean collapse? I said face mask collapse into the face for testing
36. How much pressure in the bottle? time duration?
37. alarm ^ activate pressure?
38. What is minimum B.A set on board?
39. How you Refilled?
40. How you determine BA compressor Air clean?
41. What 's minimum values O_2 for breathing?
42. unconscious value? Fatal value?
43. As 2nd engineer How you prepare for Safety equipme Survey?
44. How you prepare For IApp survey?
45. What are documents for SO_x? I said Sulphur record boo
46. What are other documents? BDN, change over procedure posted, Bunker sampling records, Fuel analysis
47. How do you prepare for Thrust pad survey?
48. How do you check thrust clecrences?
49. What is maximum values?
50. What are the type Of thrust pads?
51. Thrust block types? Intergral & independent type.
52. Oil pressure in thrust bearing? ME Lub press 3.7 bar
53. What's type Of lubrication System in thrust block? Hydrody
54. What 're ^ lubrication systems? Hydro dynamics, Hydrostatics, Boundary Squeeze / hydro Elastro lubrication
55. What is maximum value combustion chamber in incinera
56. What is minimum value?
57. What is batch loading?

58. Last vessel incinerator type? capacity?

59. How did you recharge to incinerator?

60. incinerator alarms?

61. How you prepare Safety construction survey as a 2nd Engineer?

62. what are the things check in Overhead crane?

63 How you check Limit switch?

Results: PASS Date: 13.05.2016

Examiner :- Chandana Balasooriya

① to ⑪ Question Bandula kariyawasam.

Ed

Examiner; B. Kanakarassam. Class II - orals

Year : 2016 April.

1. What is your first ship - Type
2. Incident in caded ship
3. Other incidents.
4. What are the things you inspect when doing cylinder head overhaul.
5. How you will take ME performance.
   * Electronic method
   - What are the input signals.
   - What are the things monitored by pressure sensor.
   - How you will evaluate ME performance as 2E with using combustion cycle.
   - Draw the Duel cycle.

   * Conventional method.
6. If you have only draw card how you will calculate power for electronic engine.
7. What are the ME interlocks
8. What are the ME safety systems
9. How you will carry out LO low pressure alarm on Main engine.
10. How you will make sure that tripping pressure is correct.
11. How to calibrate pressure calibrator onboard
12. How you kept record onboard.
13. How you will make sure your fuel injection is correct.

How you will carry out ME test run, after major overhaul.

(15) Your outgoing 2E has done complete unit overhauled of ME, how you will juice over the vessel.

(hand over note / overhaul report / CLO dosage).

(15) How your ME can be overloaded.
- what are the indications
- what are the resons.

(16) what are the regulation in according to dry dock intervals.

(17) How you will do dry dock preparation as 2E
- what are the spares you ready.
- How you will decide to replace ~~thrust~~ item bearing ~~liner~~ (LO analize / condition monitoring).
- How you will check O/B V/V intergrity & who will give the certification.
- How to confirm correct V/V has used.
- material of O/B V/v.

(18) you have received 6 liners for AE overhaul what are the tings you check.

(19) you have overhauled liner, when installing what checks you do,
- How identified cracks.
- resons for the enterblature crack.

(20) what you will chek in liner during under pistion inspection
- what cheks on pistion
- Scavenge manifold Cheks
- pistion ring break how you identified
- Exhaust manifold inspection.

(21) After ME unit overhauled, how do you carry out running in period.
- How to change feed rate in α - lubricator system
- If less lubrication what will happen
- If excessive lubrication " "

(22) You are new 2E, old 2E sign off due to E'cy; CE is more experience in that vessel, After the AE overhaul done
- how you will do generator test run.
- what document you check
- How do you know renewal part
- If LO analysis report water content high what you decide & informe to CE.
- AE trips & alarms

(23) How the signal goes from temperature sensor to display (draw 4-20 mA ccd).
- What is the sensor o/p voltage
- What type of sensor
- How the pressure sensor transmit signal
- How you can get analog signal from that ccd.

(24) What are the checks you carry out in E/R crane.
- Why you keep lifting known weight for a certain time.

(25) What is situational awareness.

(26) What are the qualities in leadership.

(27) when you start a motor, your CE seen that light is dimming what is your action plan.
- what report you submit to company

(28) location of E'cy generator regulation.
- How that regulation related in ~~E~~ E/R blackout condition.
- what is the regulation ~~a~~ number

(29) what are the document carry ~~a~~ onboard
- Where that regulation located.

(30) If E/R has fire what is your action
- ~~Casalt~~ casualty laying near ladder, room is in full of smoke, what you do.

(31) when CE say you have bunkering in next port,
- what you discuss with CE.
- what are the things discuss in management meeting
- How you will know your staff is competent for bunker.
- what document maintain to show PSC officers.
- what are the document take to pre bunker meeting.
- what are the contain in aulysis report
- Once you recieve analysis report how you know Quantity Shortage.

(32) What is intact stability

(33) What is the condition of assignment.

(34) When you have ME liner overhaul what are the things you discuss with CE.
- What you check in E/R crane.
- If your fitter is 4 yers experance in same vessel, has done many Overhauls, during tool box meeting what instruction to give him.

- what are the tools you use for tool box meeting.

(35) How you prepare boiler for survey.
- How do you confirm 3E doing correct water testing
- If deveation present when you do, what action you take.
- If both engineers are getting wrong readings resons & how you will come do know.
- what routine maintenance do in boiler

(36) • If very fine crack in gauge glass connection pipe
- How you identified
- Action plan
- reporting procedure.
- How you prepare repair plan.

- what is qualified fitter.
- what are the safeties you takes during repair

(37) If the leak in economizer what action you takes.

Examiner: B. Kariawassam year :- 2016 April. (7)

Date No

(1) How you will train your 3E according to STCW
(2) How you will train your cadet " " "
(3) What is 2E capacity.
(4) How you will take over 2E duties.
(As per company SMS)
- What areas to be contained.
- What you will expect in your hand over report
- Why it send before a week.
- If there is any ~~deviation~~ difference with SMS requirement & hand over note, what ~~will~~ is your Action.

- What are the ~~rep~~ records keeps in ~~SMS~~ PMS according to STCW
- Under function I, II, III, IV.
(explained one by one)

- How many engineering sections covered in hand over note according to STCW. (4)
- What are them.
- How you will know your 3E is competent under function 2,
- EO's function
- What is the level of cadet

(5) What are the equipment & document maintain in onboard according to MARPOL annex VI.
(6) What are the column in 'S' record book.
(7) How you will train people onboard.
(8) Why you should know 2E function 3 (STCW) compliance with training of people

(9) your 3E is reporting @ night 1:00 O' clock both AMs are not working.
- What 's your action plan. (manned)
- How you will carry out fault findings.
- What you do in management side.
- What 's passive fault finding.
- How you will train 3E to carry out fault finding.

(10) After you start generator voltage not showing
- what are the action steps.
- what are the reasons.
- Why you call EO (he is competant person as STCW)

(11) Draw boiler control system

(12) Draw engine control system

(13) Draw modern engine control system
- Explain
- How you will check angle encorder
- What are the things can fail in system

(14) How you will carry out s/g control system fault finding.
- What engineering section includes in that system
- What checks you do in electrical section
- " " " " electronic section.

(15) MARPOL annex I equipment
- What checks you do in OWS

19. Why stern trim is preferred when entering dry dock?
20. What is static electricity (definition)?
21. What is shallow water effect?
22. What is anti-fouling and what use it?
23. What is MARPOL?
24. What is ISM?
25. What is SOLAS?
26. What is UNCLOS?
27. What is ISPS?
28. What is flag state and port state?
29. What is classification society?
30. How do you detect the TRS in vicinity?
31. What is your action when you are in dangerous semi-circle in northern hemisphere?
32. Action when fire on board?
33. Action when oil spill on board?
34. Explain rule no 19?
35. One of crew member suffer from back ache, how do you handle it?

Special thanks to capt.Ranjith Perera, Capt. Shane sankaranarayana and Capt.A.Kothalawala.

Class II Engineering Orals

Santosh Kumar

Examiner: Mr. Chandimal.

Date: 23-12-2014

Durations: 3 hours

1. Who is doing internal audits?
2. In small company have only one dpa then who will perfoem the audit.
3. How did you prepare for audit?
4. What is non confirmative.
5. Give an example of non confirmative.
6. If they found the defect how you deal with it.
7. If they give non confirmative what is your preventive action.
8. In different nationality, some problem with crew, how you assess the situation.
9. If fitter is not obey your command, what is your action.
10. In SMS any provision regarding above matter.
11. How you sack an oiler.
12. What is the function of tie bolt.
13. How you check it.
14. How you know tie bolt is slacken
15. How you deal with the slacken tie bolt.
16. What is freeting and freeting corrosion,how u identify it.
17. If you found tie bolt is broken as a 2nd eng how u deal with it.
18. How you fixed new tie bolt.
19. How you align the main engine.
20. What is procedure of making epoxy chokes.
21. In case of fire, what are the checks carried out.
22. Where is the location of transfer girder.
23. Why they are subjected to failure and which area.
24. If you find crack in engine frame, what is the action.
25. What are the non destructive method of crack detection.
26. How do you carried out temporary repair.
27. What are the preventive action taken during above situation to reach to safe place.
28. How you do the heat treatment of repair part on engine.
29. What is the Solas regulation for Life boat engine.
30. What is the Solas regulation for Steering Gear.
31. Draw AC plant in detail and explain.
32. How you remove air from system.
33. What is pump down and how do you do that.
34. How do you carried out CMS of AC plant(initial preparation)
35. How u overhaul the AC compressor(in full detail)

36. During overhaul, important point to check.
37. How do you represent the AC compressor to CE for survey.
38. How do you prepare for overhaul main SW pump.
39. Important point to be check during overhaul.
40. If you find crack in casing what is your action if u don't have spare.
41. If company say ,run for some voyage, what action you will take.
42. How do you carry our temporary repair.
43. How you carry out hot work.
44. How u prepare for hot work.
45. What instruction you give to fitter before hot work.
46. How you chose the electrode.
47. If your fitter is not competent to carried out welding, what is your action.
48. After repair how you put back into service.
49. What are the checks carried out before put back to service.
50. Draw and explain OCR.
51. How you get time delay in bi metallic type.
52. What are the ocr setting on SG motor.
53. What are the short ckt protection and why.
54. Draw and explain IDMT.
55. Detail procedure for checking megger test of a motor.
56. How much the minimum value.
57. How you carried out megger test of star and delta connected motor.
58. How you find out earth fault.
59. What are the problems related to earth faults.
60. What are the safeties of switch board protection.

ED Class II

Oral questions of gune

Ism functional requirements

Comment [gunewithl1]:

Ism elements

Nonconformity

How to verify that ism is implemented

Who conducts the internal audits

If the fleet is large who will conduct internal audits apart from DPA

How often should the audits to be carried out

How would you prepare for an ism audit

How a risk assessment is carried out for piston overhauling

If the piston doesn't come out how would you deal with that

Why proper lubrication is important

What are the effects of over lubrication

How do you verify that the cylinder can last till the next overhaul

What is maximum cylinder liner wear down

What settings we adjusts in Alfa lubricators

What is the setting that enter means

What are the signals that are fed to the lubricator

When are we adjust individual settings

When are we adjust entire strings

How the specific cylinder oil consumption is calculated

When maneuvering jacket water temperature fluctuate, what will you check

Draw a automatic jacket water temperature control system

What can be the malfunction in the above system

If the integral setting is high what happen in the above situations, explain

Why emergency generator and main generators can't be synchronized

What is the reason not to have that facility

What are the machinery powered through emergency power supply

What are the protections of steering gear motor

Draw a diagram to detect single phasing

How would you check insulation resistance in HV motor

What are the values

PSC comes and check fire pump but not starting what will be the immediate action and how would you deal with the situation and possible reasons

What are the fire pump requirements

In dry dock what will you be checking in the ship hull and on deck

What at the checks in anchor chain

How much will be thickness gauged

What are destructive tests in shipyard

Boiler has opened for survey what will you check

What is copper pickup and how it happens

What are the corrosion can be found in boiler

What are the effects of copper pickup

What is the material used in very low temperature gas carrying tanks

What are the properties of that

What is the material composition

How it is built on the ship

What is the insulation layer made with

Oral Examination (Class II Engineering)

Name: R.T. Wijesundera

Examiner: Bandula Kariyawasam

Date: 09.01.2014 & 16.01.2014

1. Vessels you sailed, Type of engine, Capacity of engines, GRT?
2. Levels operating on board?
3. Where it states?

Steering gear

4. S/G room checks?
5. S/G regulations? Where it states?
6. As 2/E what you will ask electrician to check?
7. S/G hydraulic oil test?
8. S/G room vibrations?
9. Reports?

Air compressors

10. Air compressor checks as 2/E?
11. Air compressor regulations?
12. Air reservoir checks? Regulations? Where it states?
13. What are the checks asking for 4/E?
14. Safeties?
15. Reports?
16. Control air why to be in dry condition?
17. Starting air explosion? Safeties?
18. Checks under automation files?

Aux. Engine

19. How you plan to overhaul the engine?
20. Checks? (piston, con rod, crank pin bearing, con rod bolts)
21. Reports?
22. What are the tests you carried out on lub oil?
23. How the con rods get oval shape?
24. Starting procedure after overhauling?
25. If one unit bearing temperature high what is your first action? (inform C/E)

Fire

26. Fire regulations & where it states?
27. Fire P/P regulations & checks?
28. Tests carry out before put UMS?
29. How many detectors to check before putting UMS?
30. Fire protections on board?
31. BA set checks?
32. Types of Sensors?
33. As per new regulation what is the fixed fire fighting method installed in machinery space?

Refrigeration system

34. Safeties?
35. What is direct expansion & indirect expansion?
36. Where these are fitted?
37. Ref. plant checks as 2/E?
38. A/C plant checks as 2/E?
39. Cold room safeties?
40. If cold room temperatures are less, how you ask junior eng to write it in log book? (remark on log book defrosting)
41. What actions you take on A/C plant during cargo operation on bulk carries?

Main Engine

42. Draw dual combustion diagram & explain pressures, temperatures & process? (clearly mention the axis's)
43. Draw power card?
44. Draw out of phase card?
45. Compare dual combustion & power card?
46. How the pressures & temperatures affect for combustion?
47. What else affect for combustion?
48. Scavenge space inspections?
49. Draw liner wear rate, for 2/S & 4/S?
50. What are the normal wear rates for both engines?
51. High temperature & low temperature corrosion?
52. OMD activated what is your action?
53. What is your next action?
54. What are the reports you refer?
55. What are the areas you will check specifically?
56. What will you ask electrician to check?
57. Thrust bearing checks? Clearances?

58. Why you check sludge checker?
59. How you check it during M/E running?
60. What are the special checks as 2/E on main engine?

Boilers

61. Safeties?
62. How you check safety valves? How often you check?
63. How you check L.L water level trip?
64. How you calibrate remote level gauge?
65. How often you do boiler gauge glass blow down?
66. How you check flame failure?
67. What are checks according to automation file?
68. What kind of blow downs you carry out?
69. Why you blow downs the boiler?
70. How you ask 4/E to open steam for bunker tank?
71. What is the importance's of drains?
72. Where it states (drains to have)?
73. What will affect boiler combustion?
74. How the uptake fire occurs?
75. What are checks near combustion area?
76. How you prepare for boiler survey?
77. Reports?

Materials

78. What are non-destructive tests on board?

Propeller & thrusters

79. Stern tube oil leaking to sea what actions you take?
80. Sea water leaking into the system what actions you do?
81. Why bulk carriers having two tanks?

Pumping systems

82. Ballest operation how you carried out?
83. What records you keep?
84. What checks on electric motor?
85. Oily water separator checks?
86. How you check the function of PPM monitor?
87. What are the critical spares?
88. Bunkering procedures?
89. Samples you take?

90. What are the instructions you given to electrician, 3/E, 4/E during bunkering?
91. Sewage plant checks?
92. What are the tests?
93. Lub oil management?

Deck Machinery

94. Checks on windlass?
95. What checks on brake?
96. How you find out performance on windlass?
97. Crane checks?
98. Lub oil condition? Tests?

Machinery Records

99. Oil record book entries?
100. Log book entries?

Dry Docking

101. How you prepare for dry dock?
102. One year before?
103. Before enter dry dock what checks you ask electrician to carry out?

Electrical

104. Motor protections?
105. Paint locker lighting?
106. Switch board protections?
107. H.V safeties?
108. Will you allow electrician to carry out jobs on H.V?
109. How to find earth faults?
110. What will happen if there are two earth faults in 2 different phases/ in same phase?

Automation

111. Bridge control fails what are the actions you take?
112. How you carry out trouble shooting?
113. Who will call for assistance?
114. What are block v/v's & interlocks?
115. Where it fitted?

Management

116. How you train cadet?
117. How many assignments in training book?

118. How you train other engine room staff?
119. If your E/R staff performance going down what actions you take?
120. How to take over from out going 2/E?

***MARPOL – (Oil record book, Garbage management)

***SOLAS – (CH-II-1, CH-II-2, CH-III, CH-V, CH-IX)

***ISM CODE

***MLC 2006

***STCW

***These are 100%

Oral Examination (Class II Engineering)

Name : - D.P.M.Rajapaksha
Date : - 12.02.2014
Examiner : - Mr. Poojitha Herath
Duration : - 2.5 hrs

1. boiler survey
2. How do you divide new and old boiler
3. Why you contact survey before come into ship
4. What you are doing,before survey inspection
5. How do you gag the safety valve
6. What is the max open limit by easing gear and automatic open
7. What is the boiler accumulation test
8. How do you instruct your junior to open a steam valve
9. What factors influence for design safety valve
10. What are the checks in boiler burner
11. What are the reasons for flam flickering
12. How do you know optimum fuel burning in the furnace
13. If boiler tubes block, what are the indications
14. What are indications in main engine
15. Boiler water test and recommended level
16. What is the hardening
17. If increase, what are the actions
17. Pressure gauge testing procedure
18. How do you avoid scavenge fire as a 2nd engineer
19. How do you prepare for maneuvering and how do it
20. How do you adjust tappet clearance in Mitsubishi UEC engine
21. Before put into UMS what are you checking
22. What are the air compressor lub oil properties
23. What are the heat treatment methods?
24. What is the MSDS
25. How do you advise to E/E to check crane before port
26. Water came into the cabine with air what is the reasons
27. What is the comfortable range
28. Evaporator ice building,what are the reason
29. Draw & explain IG system
30. What are the emergency steering gear regulations
31. Steering gear safety
32. Steering gear electrical equipment how vary with other electrical equipment
33. Draw and explain revers power relay
34. What is purpose it
35. How do you check ACB preferential trip
36. How connect the ACB into the switch board
37. What is the test position
38. What are the switch board protection

39. What are the differences in fuel system M/E and MC
40. How do you de-pressurizes M/E fuel system (not flax)
41. In flex engine,how achieve low speed running
42. What is the overlap
43. How many ECU
44. Are their redundancy
45. Draw CPP system(control from bridge until to the pitch movement)
46. Material in each component
47. CPP survey
48. Dry dock other survey
49. What method use to check tank plugs
50. Your 3rd engineer Singh off in dry dock,what you are taken from him for new 3rd engineer
51. What is the MLC 2006
52. What are the new rest hours regulations
53. How do you adjust timing (main engine)
54. You have to adjust timing beyond the given setting in NOx technical file,what is your action
55. What are the contents in NOx file
56. This file is under which regulations
57. What are the MARPOL annex 2 discharge regulations
58. What are the constructions fire protection in ship
59. What is the class A bulkhead
60. How do you match burner to the boiler

These questions are not in correct order

Oral Examination (Class II Engineering)

Name : S. Wickramarachchi
Examiner : C/E Chandimal
Date: 20.01.2014

Law

1. What is SMS?
2. What is the Management Review?
3. What is non-conformity and give an example.
4. How often and why do we have Management meetings?
5. Who are the individuals involved in the Management meeting?
6. You are going to enter the US territory. The preparations as a 2nd Engineer?
7. New cadet onboard. How do you train the cadet?
8. You observe that the cadet's performance is dropping. What is your action?
9. Draw a 4 ram steering gear system.
10. Is it 50% or 100% redundant?
11. Explain 100% redundancy of the steering gear.
12. Steering gear requirements according to SOLAS Chapter II-1 and Chapter V.
13. As a second engineer, what do you check on the Steering Gear system?
14. Emergency steering procedure.

Tankers

15. You have to send two persons to the cargo pump room of a tanker. How do you prepare? Checklist & enclosed space entry.
16. What are the cargo pump room safeties?
17. Give two different systems of driving the pumps. Hydraulic, steam.
18. What is the inert gas system?
19. Under which chapter of SOLAS does it belong to?
20. Draw the PV breaker and describe it.
21. What are the pressures?
22. What is the purpose of the PV valve?

Electrical

23. How do you parallel the shaft generator and the auxiliary generator? Different rpms why? Number of poles different.
24. Draw the reverse power relay and explain it.
25. How the current is created in the current coil?
26. How do you choose the CT rating? Ratio of turns.
27. What are the reverse power settings for turbines and auxiliary generators?
28. Why 2-3% reverse power setting for turbine generators?

Engine & cylinder lubrication

29. How do you calculate engine mechanical efficiency?
30. What are the properties of Cylinder oil?
31. Specific cylinder oil calculation.
32. From where do you find the density of the cylinder oil? BDN

33. What is the normal specific cylinder oil consumption on a normal engine?
34. What is the minimum specific cylinder oil consumption on an engine with Alpha lubricators? 0.5 g/kWh.
35. In the Alpha lubricator what is HMI setting?
36. How do you decide which HMI setting to use? Feed rate factor × S% and chart (cyl oil type and type of engine)
37. What other inputs taken into the ALCU for calculation? engine angle, rpm & fuel index.

Electronic engines (RT-Flex)

38. What are the main differences between RT-Flex and ME engines?
39. Draw and describe the ICU (Injection Control Unit).
40. How many feed backs on the exhaust valve on the RT-Flex?
41. How RT-Flex achieves very low rpm?
42. What is the injector cycling and overlap period? 20 minutes injector cycling and 10 seconds overlap.

Electronic engines (ME)

43. What is a FIVA?
44. How many ECUs? 2.
45. Why two ECUs?
46. Some large engines do not have redundant ECUs. Why is that? LO p/p 4 and LO p/p 5 connected to ECU-A and ECU-B respectively and is not connected to the ACUs.
47. What is CCU and its purpose?
48. How many ACUs?
49. Which module controls the auxiliary blowers? ACU1 for Aux Blower 1 and ACU2 for Aux Blower 2.
50. How the auxiliary blower starts at the beginning? "Prepare Start" button on the MOP.
51. Cut in and cut out of blower charge air pressures? 0.4 bar and 0.7 bar.
52. What is CoCoS-EDS and what parameters it measures?
53. Is CoCoS-EDS used on ME engines?
54. How redundancy is maintained on the ECS? Two separate network buses.
55. What is a Crank angle encoder and how does it work?
56. Where are they located? Fwd of engine.
57. What type of signal is send from the encoder? Pulses.
58. How does it achieve redundancy? Two separate lines to ECU-A and ECU-B and to each CCU from TSA-A and TSA-B.
59. One CCU fails. How does the engine function? ECS alarm, reduce load and run with one unit cut off.
60. Where can you find information? Operational Manual.

Ship Construction

61. Draw and explain a bilge keel.
62. How is the bilge keel attached to the hull? Doubler plate and intermittent welds.
63. Why use intermittent welds?
64. What other stabilizers are used on ships? Wing stabilizers and heeling tanks.
65. On tankers what type of stabilizing systems used?

W.T.Mohotti

Class II Orals

Examiner : Mr.Pujitha Herath

Date : 02/01/2014

Duration: 1h 40min

1. Draw the Improved high lift safety valve.
2. O/h procedure of safety valve after bringing to the workshop.(have to mention documents/management/for survey purpose)
3. Checks & typical clearances (hood/spindle/seat/body/spring/compression nut/bush/waste steam piston/floating ring/compression ring height/lip clearance...)
4. Neck bush material.
5. How lid & spindle connected (from split pin close fit)
6. What is the tolerance of v/v lid & spindle.
7. What is fretting ,where you suspect fretting on safety v/v
8. What u r going to check on boiler mounting of safety v/v (flange face, cracks, pipe internal...)
9. Safety v/v floating requirements (expect a blow down3 %)
10. Explain foaming & priming
11. How to maintain TDS
12. Weekly test & checks doing for the boiler
13. What methods used for burner controllers (on/off, modulating with respect to steam demand)
14. Where PID controllers used on-board
15. Draw & explain suitable PID controller for any system (I explained j.w. Split range)
16. Draw Reverse power relay
17. What are the switch board protections
18. *Insulation resistance value of the rubber mat (should have certificate for mat)
19. Prepare the Emergency generator for a survey
20. Why do u need emergency steering
21. Requirements for emergency steering
22. Types of emergency steering (hand wheel/solenoid)
23. How you tackle your juniors for making sure keeping a good watch on remote locations e.g.: steering flat (put notices/check list for sign)
24. What is super heater fire & how it occurs
25. What are the surveys carried out @ dry dock (explain hull/rudder/propeller/tail shaft/anchor/chain/boiler internal/other machineries which were due/tanks/gauging)
26. How you make sure the bottom plug of the tank is held after tightened. (*vacuum test)
27. What are the statutory certificates & What is occupational survey
28. What is ILO 2006 (explained with its contents)
29. What is ISM
30. After dry dock how you maintain the tail shaft for the next 5 years (Tail shaft Monitoring Sys/lo analysis/keep records of seal temp....)
31. The ship is not run UMS for a period of time. How u r going to prepare for the UMS operation (expect why the ship is not run UMS & checklist/etc....)
32. How u do crank case inspection

33. What is the normal color of cc
34. Indications of microbiological degradation
35. How you maintain ME LO system as 2nd Engineer (expects lo Analysis/Purification/back flush filter/sludge checker....)
36. How you avoid cc explosion
37. Draw starting air system for any engine (I drew Sulzer RTA with all component full sketch)
38. What oil can be used as Main Air compressor oil, if a shortage of main air compressor oil
39. What are the properties you are looking for
40. How u maintain the condition of Starting air line & avoid explosion
41. What u r looking for starting air line while maneuvering
42. What is double isolation of starting air line(automatic v/v /non return v/v)
43. How you are going to check the function of automatic v/v (I explained only conventional methods, but expect test with test kit)
44. Why you are locating MSDS in prominent places (expect other requirement + for training purposes)
45. Contents of it
46. What are the heat treatment methods
47. Explain why doing tempering
48. What is toughness & Hardness
49. What is case hardening & procedure
50. Depth of case hardening depends on what, list it
51. What is nitriding
52. Composition of Gray cast Iron
53. C % of mild steel
54. Composition of AluminiumBronz
55. Bunker Procedure
56. Explain about RT FLEX fuel system
57. Explain how low load running is achieved.. (Injector changing Procedure)
58. What is ECU, purpose & How many are there, why
59. What is CCU
60. Function of FIVA V/V

*** All answers were given with related documents/records/certificates/safety/management...

Result : passed

Oral Examination (Class II Engineering)

Name : - Terance Randika
Date : - 09.01.2014
Examiner : - Mr. Bandula Kariyawasam.
Duration : - 5 hrs

1. Previous ships specifications, and Incidents onboard.
2. How do u prepare an Air compressor for major overhaul?
3. How do u evaluate Air compressor performance?
4. How do u check Air reservoirs?
5. What are the Engine Room fire extinguishers?
6. How do u check water mist system?
7. What are the areas covered by water mist system? What are the system activation locations?
8. How many fire detectors will u check before go to UMS?
9. What are the Fire detection and prevention methods in Steering gear?
10. How do u carry out scavenge inspection?
11. How do u take over ER watch, What are the important readings in log book that u would check, and why those readings are important?
12. How do u prepare for Boiler inspection?
13. How do u prepare for dry docking?
14. How do u calibrate **BLR** remote water level gauge? How often? (Monthly)
15. How do u confirm whether level showing in remote level gauge is correct or not?
16. What are the BLR blow down methods?
17. How do u decide blow down intervals?
18. Purpose of scum and bottom blow down?
19. Related to BLR what are you record in Automation log?
20. What action will u take if OMD alarm activate during ur watch?
21. What are Nondestructive tests?
22. How do u prepare for IW survey, what are the requirements?
23. What are the Switch board protections?
24. What will u do if voltage doesn't show in the volt meter when u start a generator?
25. What is the thickness of the rubber mat in front of the Main switch board?
26. What are the motor protections?
27. If ur Main engine Bridge controls fails, how do u start tracing the problem?
28. How do u prepare for Main engine unit overhaul?
29. How do u check lifting gears?
30. What are the checks carry out in ER overhead crane?
31. How do u check brake? (Lifting known weight)
32. What is the known weight in ER?
33. How long will u hold it up?
34. How do u check A/C system?
35. What are the safeties provided in A/C system for fire?
36. How do u check Ref. system, What are the rules applicable?

37. Your 3rd Engineer had recorded Meat room temperature as -5, How do u explain it to a Port state inspector? (Should enter a remark in the log book)
38. How do u check Steering gear, What are the rules and regulations?
39. How do u check Deck machinery? How do u check hydraulically operated hatch cover?
40. What are the sections of Code of safe working practice?
41. What areas do u check when u take over?
42. How do u train a cadet?
43. What are the areas that u will discuss during a management meeting?
44. What is lube oil management, What are the lube oil test carry out onboard?

Oral Examination (Class II Engineering)

Name: R.T. Wijesundera

Examiner: Bandula Kariyawasam

Date: 09.01.2014 & 16.01.2014

1. Vessels you sailed, Type of engine, Capacity of engines, GRT?
2. Levels operating on board?
3. Where it states?

Steering gear

4. S/G room checks?
5. S/G regulations? Where it states?
6. As 2/E what you will ask electrician to check?
7. S/G hydraulic oil test?
8. S/G room vibrations?
9. Reports?

Air compressors

10. Air compressor checks as 2/E?
11. Air compressor regulations?
12. Air reservoir checks? Regulations? Where it states?
13. What are the checks asking for 4/E?
14. Safeties?
15. Reports?
16. Control air why to be in dry condition?
17. Starting air explosion? Safeties?
18. Checks under automation files?

Aux. Engine

19. How you plan to overhaul the engine?
20. Checks? (piston, con rod, crank pin bearing, con rod bolts)
21. Reports?
22. What are the tests you carried out on lub oil?
23. How the con rods get oval shape?
24. Starting procedure after overhauling?
25. If one unit bearing temperature high what is your first action? (inform C/E)

Fire

26. Fire regulations & where it states?
27. Fire P/P regulations & checks?
28. Tests carry out before put UMS?
29. How many detectors to check before putting UMS?
30. Fire protections on board?
31. BA set checks?
32. Types of Sensors?
33. As per new regulation what is the fixed fire fighting method installed in machinery space?

Refrigeration system

34. Safeties?
35. What is direct expansion & indirect expansion?
36. Where these are fitted?
37. Ref. plant checks as 2/E?
38. A/C plant checks as 2/E?
39. Cold room safeties?
40. If cold room temperatures are less, how you ask junior eng to write it in log book? (remark on log book defrosting)
41. What actions you take on A/C plant during cargo operation on bulk carries?

Main Engine

42. Draw dual combustion diagram & explain pressures, temperatures & process? (clearly mention the axis's)
43. Draw power card?
44. Draw out of phase card?
45. Compare dual combustion & power card?
46. How the pressures & temperatures affect for combustion?
47. What else affect for combustion?
48. Scavenge space inspections?
49. Draw liner wear rate, for 2/S & 4/S?
50. What are the normal wear rates for both engines?
51. High temperature & low temperature corrosion?
52. OMD activated what is your action?
53. What is your next action?
54. What are the reports you refer?
55. What are the areas you will check specifically?
56. What will you ask electrician to check?
57. Thrust bearing checks? Clearances?

58. Why you check sludge checker?
59. How you check it during M/E running?
60. What are the special checks as 2/E on main engine?

Boilers

61. Safeties?
62. How you check safety valves? How often you check?
63. How you check L.L water level trip?
64. How you calibrate remote level gauge?
65. How often you do boiler gauge glass blow down?
66. How you check flame failure?
67. What are checks according to automation file?
68. What kind of blow downs you carry out?
69. Why you blow downs the boiler?
70. How you ask 4/E to open steam for bunker tank?
71. What is the importance's of drains?
72. Where it states (drains to have)?
73. What will affect boiler combustion?
74. How the uptake fire occurs?
75. What are checks near combustion area?
76. How you prepare for boiler survey?
77. Reports?

Materials

78. What are non-destructive tests on board?

Propeller & thrusters

79. Stern tube oil leaking to sea what actions you take?
80. Sea water leaking into the system what actions you do?
81. Why bulk carriers having two tanks?

Pumping systems

82. Ballest operation how you carried out?
83. What records you keep?
84. What checks on electric motor?
85. Oily water separator checks?
86. How you check the function of PPM monitor?
87. What are the critical spares?
88. Bunkering procedures?
89. Samples you take?

90. What are the instructions you given to electrician, 3/E, 4/E during bunkering?
91. Sewage plant checks?
92. What are the tests?
93. Lub oil management?

Deck Machinery

94. Checks on windlass?
95. What checks on brake?
96. How you find out performance on windlass?
97. Crane checks?
98. Lub oil condition? Tests?

Machinery Records

99. Oil record book entries?
100. Log book entries?

Dry Docking

101. How you prepare for dry dock?
102. One year before?
103. Before enter dry dock what checks you ask electrician to carry out?

Electrical

104. Motor protections?
105. Paint locker lighting?
106. Switch board protections?
107. H.V safeties?
108. Will you allow electrician to carry out jobs on H.V?
109. How to find earth faults?
110. What will happen if there are two earth faults in 2 different phases/ in same phase?

Automation

111. Bridge control fails what are the actions you take?
112. How you carry out trouble shooting?
113. Who will call for assistance?
114. What are block v/v's & interlocks?
115. Where it fitted?

Management

116. How you train cadet?
117. How many assignments in training book?

118. How you train other engine room staff?
119. If your E/R staff performance going down what actions you take?
120. *How to take over from out going 2/E?*

***MARPOL – (Oil record book, Garbage management)

***SOLAS – (CH-II-1, CH-II-2, CH-III, CH-V, CH-IX)

***ISM CODE

***MLC 2006

***STCW

***These are 100%

Oral Examination (Class II Engineering)

Name : Sanjaya Kantha Chandrasiri
Date : 19.12.2013
Examiner : Mr. Bandula Kariyawasam
Duration : 3 hrs 40 mins

1. Ships that you have sailed (All ships since cadetship)
   (Engine type / TEU capacity only)
2. Problems you had on each ship.
3. How to detect cylinder head crack?
4. How to find cylinder liner crack? (Tests)
5. How cylinder liner crack can occur?
6. Main component of M/E hydraulic system.
7. Safeties on M/E hydraulic system
   (CCU/ECU/Hydraulic pressure/Booster pump discharge pressure/emergency lubrication/about hydraulic pump/angle encoder)
8. RT Flex fuel depressurizing.
9. How you know your cylinder lubrication is working?
10. Pressure in lubrication system (Alpha/Mechanical).
11. Wear rates of cylinder liner (0.05mm/1000hrs – 2-S), (0.015mm/1000hrs – 4-S)
12. Why 4-S wear rate is less compared to 2-S stroke engine? (hydro-dynamic lubrication)
13. Chapter I – Code of Safe Working Practice (Risk Assessment)
14. How you would train a cadet? (as per training record book)
15. How you would assess the cadet's performance?
16. How many assessments does the cadet training record book have? 30
17. When you transfer crankcase lub oil of generator sump tank and recorded in ORB? 11.4
18. NOx technical file entries – IMO number, parameters.
19. Where do you find out bunker procedures? Operational manual
20. ISM Manuals contents
21. Management review. Manuals, short comings of SMS, near misses, PSC reports, deviations, etc studied at end of year and send to company for updates/improvements to SMS.
22. AC plant checks. Filter, Leginella, water drain, crew comfort, quality of air
23. MLC 2006
24. Sewage plant checks. Maintenance – air pressure, gasses (vent), BOD [50mg/l, 300mg/l], TSS [35mg/l]
25. Dangers in working with the sewage plant. H_2S, methane
26. Fire p/p pressure at hydrants. 2.7 bar
27. Emergency generator checks
28. Blackout test. Full load on EG for 30 minutes on ESB consumers + risk assessment
29. Steering gear checks. Normal checks + special isolation test by simulating low level alarm
30. SOLAS chapters II-1, II-2 contents
31. Content of fuel analysis report.
32. Content of Lub oil analysis report. Spectrographic analysis

33. Onboard Lub oil tests.
34. Lub oil management.
35. Fuel oil management.
36. How you prepare for bunkering?
37. Timings that you record while bunkering.
38. OWS checks. Filter pressure drop trend.
39. When entering into the E/R during night rounds what are you going to check? Documents
40. Checks on crane?
41. How you check the brake on the crane?
42. How you would carry out a scavenge inspection?
43. Remote water level calibration. Documents
44. OMD alarm activates. What action and checks you would carry out?
45. Fire. How you report it?
46. Boiler annual survey.
47. Boiler water tests.
48. Safety checks carried out on the boiler.
49. Your boiler safety valve stub branch is leaking. What actions?
    Welding procedure. Welder's qualification.
50. While cleaning the Lub oil filter what checks carried out?
51. What are the non-metal particles?
52. Fuel standard. ISO-8217
53. High temperature corrosion.
54. Low temperature corrosion.
55. Bunker samples.
56. Vibration at the aft. Causes?
57. Who checks ships?
58. Motor safeties.
59. Month end papers.
60. Thrust bearing high temperature. Causes?
61. Dry dock preparation.
62. Motor checks.
63. Performance of the pump.
64. Joining briefing.
65. Vessel delivery from yard.
66. Dual combustion cycle. Temps
67. Power card.
68. Draw card. Early ignition.
69. Fuel knocking.
70. New developments of engine. High top land, Oros shape.
71. M/E fuel system.
72. Sounding pipe. About self-closing cap.
73. ECA change over procedures. Log entries only.

Oral Examination (Class II Engineering)

Name : - *Hasith Buddhima*
Date : - 19.12.2013
Examiner : - Mr. Poojitha Herath
Duration : - 1.5 hrs

1. Draw & label a boiler safety valve.
2. What is the different between Improved high lift & Full bore type Safety valves?
3. What is the different between Safety & relief valves?
4. What is Foaming & Priming?
5. How do you overcome foaming & priming?
6. What are the boiler chemical levels?
7. Why you use Hydrazine?
8. How do you instruct your junior to open a steam valve?
9. What is Steam Hammering?
10. Draw & explain a steam trap.
11. How do you avoid crankcase explosion?
12. Key points of Scavenge inspection.
13. How do you get an idea about Stern tube?
14. What is MEPC?
15. What is MLC 2006?
16. What is P&I Club?
17. What is the meaning of Statutory & Class certificates?
18. What is Hull & Machinery insurance?
19. What is the last MSN in Sri Lanka?
20. How do you avoid oil spill during bunkering? What is SS 600:2008?
21. How do you train a junior?
22. Why inter department relationship important & what are the actions you can take to improve it?
23. What are the composition of Cast steel, Cast iron & Albo - 3
24. What are the material test methods?
25. What are the heat treatment methods?
26. Draw a reverse power relay.
27. How do you prepare for dry dock?
28. What are the jobs in dry dock?
29. How do you know the progress of dry dock work?
30. Handover in dry dock. What are the checks other than normal handover as 2nd engineer?
31. Draw & explain Stress – Strain curve.
32. What are the emergency steering gear regulations? Passenger ship steering gear regulations?
33. Draw and explain of a cross section of your ship.
34. How do you carry out repair on RT- Flex engine fuel system?
35. Draw your main SW pump characteristic curve.

36. Your ship currently on MANNED. Company asked run on UNMANNED condition. What are your actions as 2nd engineer?
37. There is cooler cleaning process going on. How do you instruct your junior to bring the cleaning chemicals to the location?
38. What are the types of surveys?
39. How do you motivate your staff to be good engineers?

Oral Examination (Class II Engineering)

Name : Sanjaya Kantha Chandrasiri
Date : 19.12.2013
Examiner : Mr. Bandula Kariyawasam
Duration : 3 hrs 40 mins

1. Ships that you have sailed (All ships since cadetship)
   (Engine type / TEU capacity only)
2. Problems you had on each ship.
3. How to detect cylinder head crack?
4. How to find cylinder liner crack? (Tests)
5. How cylinder liner crack can occur?
6. Main component of M/E hydraulic system.
7. Safeties on M/E hydraulic system
   (CCU/ECU/Hydraulic pressure/Booster pump discharge pressure/emergency lubrication/about hydraulic pump/angle encoder)
8. RT Flex fuel depressurizing.
9. How you know your cylinder lubrication is working?
10. Pressure in lubrication system (Alpha/Mechanical).
11. Wear rates of cylinder liner (0.05mm/1000hrs – 2-S), (0.015mm/1000hrs – 4-S)
12. Why 4-S wear rate is less compared to 2-S stroke engine? (hydro-dynamic lubrication)
13. Chapter I – Code of Safe Working Practice (Risk Assessment)
14. How you would train a cadet? (as per training record book)
15. How you would assess the cadet's performance?
16. How many assessments does the cadet training record book have? 30
17. When you transfer crankcase lub oil of generator sump tank and recorded in ORB? 11.4
18. NOx technical file entries – IMO number, parameters.
19. Where do you find out bunker procedures? Operational manual
20. ISM Manuals contents
21. Management review. Manuals, short comings of SMS, near misses, PSC reports, deviations, etc studied at end of year and send to company for updates/improvements to SMS.
22. AC plant checks. Filter, Leginella, water drain, crew comfort, quality of air
23. MLC 2006
24. Sewage plant checks. Maintenance – air pressure, gasses (vent), BOD [50mg/l, 300mg/l], TSS [35mg/l]
25. Dangers in working with the sewage plant. H_2S, methane
26. Fire p/p pressure at hydrants. 2.7 bar
27. Emergency generator checks
28. Blackout test. Full load on EG for 30 minutes on ESB consumers + risk assessment
29. Steering gear checks. Normal checks + special isolation test by simulating low level alarm
30. SOLAS chapters II-1, II-2 contents
31. Content of fuel analysis report.
32. Content of Lub oil analysis report. Spectrographic analysis

33. Onboard Lub oil tests.
34. Lub oil management.
35. Fuel oil management.
36. How you prepare for bunkering?
37. Timings that you record while bunkering.
38. OWS checks. Filter pressure drop trend.
39. When entering into the E/R during night rounds what are you going to check? Documents
40. Checks on crane?
41. How you check the brake on the crane?
42. How you would carry out a scavenge inspection?
43. Remote water level calibration. Documents
44. OMD alarm activates. What action and checks you would carry out?
45. Fire. How you report it?
46. Boiler annual survey.
47. Boiler water tests.
48. Safety checks carried out on the boiler.
49. Your boiler safety valve stub branch is leaking. What actions?
    Welding procedure. Welder's qualification.
50. While cleaning the Lub oil filter what checks carried out?
51. What are the non-metal particles?
52. Fuel standard. ISO-8217
53. High temperature corrosion.
54. Low temperature corrosion.
55. Bunker samples.
56. Vibration at the aft. Causes?
57. Who checks ships?
58. Motor safeties.
59. Month end papers.
60. Thrust bearing high temperature. Causes?
61. Dry dock preparation.
62. Motor checks.
63. Performance of the pump.
64. Joining briefing.
65. Vessel delivery from yard.
66. Dual combustion cycle. Temps
67. Power card.
68. Draw card. Early ignition.
69. Fuel knocking.
70. New developments of engine. High top land, Oros shape.
71. M/E fuel system.
72. Sounding pipe. About self-closing cap.
73. ECA change over procedures. Log entries only.

Oral Examination (Class II Engineering)

Name : - *Hasith Buddhima*
Date : - 19.12.2013
Examiner : - Mr. Poojitha Herath
Duration : - 1.5 hrs

1. Draw & label a boiler safety valve.
2. What is the different between Improved high lift & Full bore type Safety valves?
3. What is the different between Safety & relief valves?
4. What is Foaming & Priming?
5. How do you overcome foaming & priming?
6. What are the boiler chemical levels?
7. Why you use Hydrazine?
8. How do you instruct your junior to open a steam valve?
9. What is Steam Hammering?
10. Draw & explain a steam trap.
11. How do you avoid crankcase explosion?
12. Key points of Scavenge inspection.
13. How do you get an idea about Stern tube?
14. What is MEPC?
15. What is MLC 2006?
16. What is P&I Club?
17. What is the meaning of Statutory & Class certificates?
18. What is Hull & Machinery insurance?
19. What is the last MSN in Sri Lanka?
20. How do you avoid oil spill during bunkering? What is SS 600:2008?
21. How do you train a junior?
22. Why inter department relationship important & what are the actions you can take to improve it?
23. What are the composition of Cast steel, Cast iron & Albo - 3
24. What are the material test methods?
25. What are the heat treatment methods?
26. Draw a reverse power relay.
27. How do you prepare for dry dock?
28. What are the jobs in dry dock?
29. How do you know the progress of dry dock work?
30. Handover in dry dock. What are the checks other than normal handover as 2nd engineer?
31. Draw & explain Stress – Strain curve.
32. What are the emergency steering gear regulations? Passenger ship steering gear regulations?
33. Draw and explain of a cross section of your ship.
34. How do you carry out repair on RT- Flex engine fuel system?
35. Draw your main SW pump characteristic curve.

36. Your ship currently on MANNED. Company asked run on UNMANNED condition. What are your actions as 2nd engineer?
37. There is cooler cleaning process going on. How do you instruct your junior to bring the cleaning chemicals to the location?
38. What are the types of surveys?
39. How do you motivate your staff to be good engineers?

Class 2 Engineering Orals
Candidate: K.Senthooran
Examiner: Poojitha Herath
Date: 10th & 28th October 2013

1. Draw a boiler safety valve and label it.
2. Boiler safety valve lifting during sailing, as a second Engineer what will be your action?
3. What are the types of boiler corrosion and explain it.
4. What are the limits of boiler water test results?
5. What is the different between P alkalinity and M alkalinity?
6. Draw an automatic boiler burner control circuit.
7. What are things will affect the combustion of a boiler burner?
8. If burner flame too close to the burner then how boiler burner will get effect?
9. What are the reasons for super heater fire?
10. Explain about TMON (Tail shaft monitoring).
11. Explain the procedure of Tail Shaft withdrawal survey.
12. Draw diesel cycle and explain it.
13. Draw power diagram and explain it.
14. Draw light spring diagram and explain it.
15. What are the actions you will take when a stern tube oil system contaminating with water?
16. What is the procedure for changing stern tube oil? (Not in the dry dock.)
17. If three persons additionally joining more than the capacity of your ship sewage plant, as a second engineer what will be your action?
18. What is SOLAS Chapter 9?
19. What is the different between ISM and SOLAS Chapter 9?
20. What is the MEPC's latest circular?
21. What are the composition and properties of Cast iorn, Cast steel and Albo ?
22. Explain about hardening, annealing and case hardening?
23. Draw a reverse power relay and explain it.
24. What is the limit of reverse power relay?
25. What is the different between current transformer and power transformer?
26. What are the switch board gears?
27. What is single phasing and how it can happen?
28. Draw a single phase motor.
29. Write a dry dock spec.
30. What is the critical time in dry dock?
31. Explain about a complete scavenge space inspection to your juniors.
32. What mentioned in a MSDS of fuel oil?
33. What are the main components in ME engine?
34. How many ECU in ME engine?
35. What is the procedure for changing ECU?
36. Where will you drain the fuel common rail when doing any maintenance?
37. What are the advantages of electronic engines?
38. What are the major different between electronic engine and conventional engine?

39. How you will prove your engine room (ship) is strictly following MARPOL regulation to a PSC officer?
40. What are the requirements of emergency generator?
41. Why need emergency steering?
42. What are the regulations of emergency steering?
43. What are the bulk head types?
44. What is class A and class B bulk head?
45. What is class A 60 and class B 30 bulk head?
46. Your UMS engine room now on MAN. If your company asked to run the ship on UMS mode again from a specified date. As a 2nd engineer what will you do?
47. What are the requirements of sprinkler system in a passenger ship?

21.10.2013

Class 2

Examiner: Pujitha Herath

Candidate: U.R Edirisinghe

1. How you prepare auxiliary boiler for internal survey
2. How you open man hole door .
3. Which manhole should open first and why
4. How you float safety valve
5. Your third engineer inform you all your piston cooling temp has increase. Me rpm drops slightly.what action you take.
6. What are the difference in electronic engines compare to conventional engines
7. What are the advantages of electronic engines
8. How slow running achieve in RT flex engine. What is minimum possible rpm
9. How to de pressurize fuel system RT flex engine. Where will this oil go
10. What is CCU. What are CCU function
11. What is ECU. How many ECU. Why
12. What is SOLAS
13. What is solas Chapter 9. What is in it
14. If you join as ISM auditor on board what will you inspect
15. What you check in engine department and deck department
16. What is statutory certificate means
17. What is interim certificate means
18. What is MLC 2006
19. What is minimum age and limitation
20. What is validity period of medical certificate and limitation
21. How you take over as a second engineer if ship is in dry dock
22. How you inspect propeller in dry dock
23. What is TMON and its regulations
24. What are steering gear regulations
25. How you prepare crane for survey
26. What are alternator safeties and engine side safeties
27. What are panel board safeties
28. What is drip proof and flame proof
29. What is wash bulkhead
30. How free surface effect reduce by construction
31. What are bulkhead on board ship
32. What is class A and how many types

33. What checks need to be carry out before putting UMS
34. How you carry out ME scavenge inspection
35. How you take photographs
36. What checks in liner
37. How many photograph in line. Why
38. How ME and Aux engine comply with Marpol
39. What is Tier 1,2, and 3
40. How you evaluate NOx emission
41. What document you need when you send bunker sample or analysis
42. Why you need to treat LT cooling water
43. You observe cooling water values are dropping gradually. What action you take
44. What are properties of air compressor lub oil
45. What happen if lub oil carry over.

Class 2 Engineering Orals
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Examiner: Poojitha Herath
Date: 10th & 28th October 2013

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21.10.2013

Class 2

Examiner: Pujitha Herath

Candidate: U.R Edirisinghe

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43. You observe cooling water values are dropping gradually. What action you take
44. What are properties of air compressor lub oil
45. What happen if lub oil carry over.

45.) CPP propelled M/E with shaft generator, what will be the governor?
46.) Draw an isochronous governor?
47.) Draw a timing diagram for 4s engine?

ORALS QUESTIONS...

01. How to train a cadet.

02. Sketch & describe the operation of the boiler which shows the control systems (make sure that you shows each & every component of all systems. Systems include water level control, steam pressure control, dumping operation, burner operation).

03. Describe burner operation , your boiler burner cut in & cut off so,what could be causes for that, what precautons you take & what actions you take.

04. sketch describe a high pressure boiler gauge glass arrangement, (Make sure to put the mica strip).

05. During at mid seas your gauge glass broken and how your going to repair it.(tell that you are going stop boiler , ME ,AE to be c/o to diesel oil, depressurise the boiler & stop it , cool it ,then proceed)

06. What actions to be taken if your boier tube plate got thinned out.(consult class surveyor.)

07. Explain how to identify the smoke tube leaks , what repairs to be performed .(dot com sereies boiler book has repair actions to be taken, its clearly shown with diagrams)

08. What points get damaged during the operation of the safety v/v spindle. draw and explain.

09. Sketch & desribe the view of a boiler manhole opening, clearly show the compensating ring with the tell tailed hole & why they are employed.

10. Why you use hydrazine to boiler, what will happen if the N_{2H2} level goes high. what actions you would take,

11. How to test the TDS level in boiler water ,what percentage to be maintained in boiler.

12. Whats shows in steam & water space surfaces in brown colour, why you shouldnot removed that layer from surface , how it is being formed.

13. Purpose of the tie rods , your M/E tie rod got broked at mid sea , how you prceed the voyage , at port what are you going check on M/E.

14. M/E one of the units cross head pin got damaged with the bearing shell, shell badly worn and you have spare shell. company allowing you to come to port by replacing the new shell. but what actions you take. (think about cost effectiveness and take your action.)

15. Action for above question ,was to cut off the unit and explained method to isolate and take out all moving piston ,cross head , con rod. (examiner need a complete procedure of the overhual)

16. Draw & explain the arrangement of ME engine fuel injection system.

17. How to check M/E thrust block clearance.

18. Why the M/E thrust block employed in close to the engine in the bed plate instead of placing it away from the engine.

19. Explain what are the methods of vibration dampers employed in M/E, how the M/E supported.

20. How the axial & torsional vibration dampers works , draw and explain.

21. What arrangements vibration dampers in medium speed engines.

22. Medium speed engines non drive end holding down bolts were getting damaged repeatedly. How you going to trace the faults ,what checks you do.

23. How to share the , Kvar load.

24. What's the purpose of the capaciters , name an important component that have capaciters.(AVR)

25. sketch how capaciters engaged into a fluroscent lamp circuit.why they are used for operate fluroscent lamp. (stoboscopic effect)

26. How you prepare dry docking . (complete explanation.)

27. What checks you do on the propeller during dry docking . (explain)

28. How you going to do a load line survey. what are the items to be checked on,.(explain all the components subjected to the survey.)

29. What checks on the booby hatches in cross deck area . how to test the water tightness.

30. Explain bilging,& free surface effect , shear.

31. What is the difference betweeen ALCAP system & other systems.

32. Sketch and describe the ALCAP system operation. (water transducer)

33. What are new ammendments to the O.R.B.

WISH YOU ALL THE VERY BEST IN EXAM. GOOD LUCK..

Kalum Fernando

what are the things to be checked in an IOPP survey
how long is the validity
what is annual survey
what is window period
what was the ISM procedure of your last shIp
what is management review
what are the defects of a propeller(draw and explain)
how do you carry out a dyepenitrant test
how do you carry out a magnetic particals test on the propeller shaft
(draw & explain)

what are the things to be checked in the shaft
what are the advantages & disadvantages of a high GM
what are the methods to obtain power in two stroke engines
what are the methods to check the rpm
what is a proximity switch
what is SFOC
what is kwh
then he gave me some information and ask to calculate the SFOC (value 125g/kwh)
is this correct (no)
can't you get this value in modern electronic engines
during the passage suddenly engine has started to fluctuate ,what are
the reasons
how do you find the fault
what is the arrangement in B&W for running direction interlock
procedure to check timing of SULZER fuel pump
how do you take the ship safely to a port if a tie rod is broken
what is factor of safety
what is lagging power factor
normal values of it
what is differential kvar performance ballancing
what is kvar
what will be your actions in a complete black out situation

Name: A.K.S.ABEYRATHNA

Exam: Class 2 Engineering Oral Examination

Date: 23/12/2011 Time: 09.20AM – 10.50 AM

Examiner: Mr. Leslie Hemachandra

1. What are the Ships and Engines You are sailed?
2. How do you check the fuel timing of a Sulzer RTA Engine?
3. What are the spars you need (During Explaining)?
4. Draw the Stating & Reversing diagram for Sulzer cam less engine (RT flex)?
5. Explain It?
6. Explain how to reverse the engine?
7. What are the impurities found HFO?
8. What are the effects on that?
9. What are the other effects on piston rings wear (During Explaining)?
10. What are the purposes of Tie rod bolt?
11. What are the forces acting on Tie rod bolt?
12. How the cold corrosion can happen on cylinder liner?
13. How can minimize on that?
14. What are the other causes of cylinder liner wear?

15. Draw the timing diagram on 2 stroke and 4 stroke engine?

L. Amanda Sankalpa

Examiner : Mr. Bandulakariyawasam

Date : 17/01/2013

1. About previous ships what I have sailed.
2. Problems which I have faced on board.
3. How to identify jacket leaking in cylinder?
4. Case Study
   "Ship is bunkering, you are near bunker manifold, your chief engineer told you that ship is going to cross Atlantic and will be a heavy weather condition after 2 days, as a 2nd what will be your reaction against this situation?

   Load line, condition of assignment, solas chapter II-1 & II-2 chapter III, code of safe working practice, ISM manuals, STCW 2010 rest hours, company guide lines/ circulars,
   Stress strain curve
   (answer should be prepared with proper planning & indicating necessary actions to prevent fire , machinery continuity, prevent oil spill, emergency power supply, prevent structural damage, prevent stability problems, crew condition& rest hours, lifesaving appliances readiness, machinery maintenance & survey reediness)
5. Garbage management(collect, segregation, store, disposal) (bins-color code, capacities, position, material)
6. What are the **ISM** manuals?(plan, do, record)
7. Marpol annex 1 / 4 / 5 / 6
8. Technical file (Factors to be recorded and existing factors)
9. Oil record book entries

Orals Questions 30/3/2012

Candidate ; Ranil de Livera

Chief Examiner: Mr Lesley Hemachandra

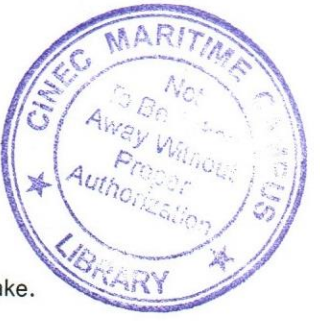
- What is ISM ?
- read the ISM code and be well versed with it.
- Ships Safety management system. You must be familiar with it and know what it's purpose and function.
- Do a risk assessment to remove a piston in bad weather
- Chief Engineers responsibilities?
- As C/E how will you plane for Dry docking (no superintendent)
- 5 year renewal survey what you inspect
- Life boat what test and requirements 'of engine
- Fuel tank inspection
- Bulk carrier hatch inspection
- Port state control codes... 10 defect rectified
- What are the motor starting systems
- How do you start a synchronous motor
- Draw a insulated earth system and explain
- Draw a circuit for Navigation light's
- Draw AVR
- If AVR is broken how will you operate
- Synchronising and load sharing
- High volt age system permit to work
- M.E. performance how you evaluate
- Sulzer fuel timing
- Turbocharger performance how you evaluate.
- If grid blocked what will happen.
- RTA Flex and ME engine. What are the differences
- Bunkering procedure
- How many days extra will you order
- What are the safety features on Cranes

M.A.M.Zuraik orals 10.30 – 12.00 on 26.12.2011

1.) What are the duties and responsibilities of 2/E?
2.) What are the audits carry on ISM and duration?
3.) Did you ever face an internal audit?
4.) What happen if auditor report a major non conformity and procedure to recover it?
5.) What happen if he report minor NC and observations?
6.) Have you faced port state control visit?
7.) What will you do if port state control detained your vessel?
8.) What happen if PSC report a 'Finding'?
9.) How do you train a cadet?
10.) Why under voltage relay fitted on board?
11.) Draw and explain?
12.) There are two generators are running in parallel but diferance voltages. What are the effects to machineries on board due to that?
13.) How do you test OCR?
14.) What is a current transformer?
15.) What are the places CT using onboard?
16.) A motor flooded with sea water, what will you do to recover it?
17.) All the officers new to vessel except you, 24 v supply failure. What will you do?
18.) How do you find out an earth leakage?
19.) How do you test a transistor?
20.) What are the simple tests carry onboard for lube oil?
21.) Did you saw a lab analysis report?
22.) Write a lab analysis report with figures and limits?
23.) What is foam ability?
24.) What is tin oxide corrosion on bearing?
25.) How do you get to know?
26.) What are the failures can occur on a metal at normal temperature?
27.) You have given a deflection figures for an engine, how do you assess that?
28.) Draw the graph and explain?
29.) What are the causes for abnormal deflection?
30.) What are the reasons for failure of bottom end bolts on 4s engines?
31.) What are the precautions taking to avoid that and periodic checks carry on identifying that?
32.) Draw and explain a bolt?
33.) Draw a double bottom tank?
34.) What are the inspections carry out in DB tank?
35.) What is rational alignment in shaft alignment?
36.) You are appointed as a c/e to a ship which has Halon as fixed fire fighting system. Ship is going to repair yard. What are your suggestions?
37.) Draw a co2 bottle head and describe the operation?
38.) What are the test carry out on IG plant?
39.) Draw and explain an IG plant?
40.) What happen by P.V. breaker?
41.) What happen if there is no p.v. breaker?
42.) What is P.V. valve?
43.) Why there is a deck seal?
44.) Draw high velocity vent?
45.) CPP propelled M/E with shaft generator, what will be the governor?
46.) Draw an isochronous governor?
47.) Draw a timing diagram for 4s engine?

Name:	A.K.S.ABEYRATHNA
Exam:	Class 2 Engineering Oral Examination
Date:	02/02/2012
Time:	09.00 AM – 09.50 AM
Examiner:	Mr. Leslie Hemachandra
Result:	Pass (2nd Attempt)

ORAL QUESTIONS



1. What are the switch board protections on vessel
2. What are the ACB protections
3. How to operate Reverse Power Relay (Draw and explain)
4. How can check is properly functioning
5. How can check Overload Relay
6. What are the designing on ACB for preventing the ARC
7. Draw and explain (Arc Shoo)
8. Your motor ingress with sea water what are the action you take.
9. If IR value not increase how to proceed
   (I tell do the same procedure several time until it come up several time)
10. What are the thinks you know that High Voltage System

11. Your vessel now in negative GM, What the action you Take
12. Why you fist fill listed side tank fist
13. Ok if you have this side Wing tank and Double Bottom tank, which tank you filled
14. Why (DB tank 1st)
15. Why freeing port and scuppers provided on deck
16. How can reduce free surface effect
17. Why large tanker not providing bulwark as General cargo ship (only gratings)

18. What is the lost-motion

19. What is the main deference between Economizer and Exhaust Gas Boiler
20. Your vessel at High Sea and economizer tube was leakage, as a second engineer what are actions you take.
21. Your vessel has Composite Boiler, Junior engineer say water leakage to the furans side, What are the action you take.
22. There it is tube leak, how can proceed
23. If you see Boiler is Heavily scale formation, What are the action you take
24. IF shore assistant can not take, As a chief engineer how can proceed now
    (My answer is same procedure in Dot.com book, but doing with Ship staff)
25. What are the chemical you needs

26. How can decide to bearing need to be renewed
27. How to check the main bearing clearance
28. What is SnO2 corrosion (He ask with different name)
29. Now bearing is already open up how can decided now it is to be renewed
30. What are the material compositions on White Metal Bearing
31. What are the material compositions on Stainless Steel
32. What is the Creep
33. Where you can found (E.g.)

34. What is the condition of assignment
35. Prepare the ship for Load Line Survey for Class renewal survey
36. What is the period of class renewal survey
37. What is the intermediate survey
38. What is the period of ship going to dry dock
39. Surveyor say need to check two ballast tank to surveyor in proceeding dry dock, how can prepare for that
40. Ch officer against with you can not empty the ballast tank we need to ballast with go to the dry dock for the stability maintaining.
41. How can discharge the ballast water to Dry dock (Bottom Plug)
42. How can carry out the ballast water tank inspection
43. What are the new regulation coming on ballast tank coating

Date: 23/12/2011 Time: 09.20AM – 10.50 AM (1st Attempt)
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5. Explain It?
6. Explain how to reverse the engine?
7. What are the impurities found HFO?
8. What are the effects on that?
9. What are the other effects on piston rings wear (During Explaining)?
10. What are the purposes of Tie rod bolt?
11. What are the forces acting on Tie rod bolt?
12. How the cold corrosion can happen on cylinder liner?
13. How can minimize on that?
14. What are the other causes of cylinder liner wear?
15. Draw the timing diagram on 2 stroke and 4 stroke engine?

COLOMBO INTERNATIONAL NAUTICAL AND ENGINEERING COLLEGE

CERTIFICATE OF COMPETENCY
CHIEF AND SECOND ENGINEER TRAINING PROGRAMME

ORAL QUESTIONS

March 2000

Mr. Lal Gunasekera.

- Explain reversing servomotor of Sulza TRA. (Also reversing of B & W MC Engine).
  Draw & explain servomotor.

- Explain what happens in air diatributor when servicing.
  Why negative cam is used for air distributors.

- Apart from heating and purification how you treat lub oil attached by microbes.
  Cross head lubrication.
  1) Sulzer
  2) B & W.
  What are the pressures of cross head lub oil in sulzer & B & W.
  Is there any external pumping arrangement apart from main L.O. pump in B & W engines?

- Explain Ex d, Ex I in detail.

- How synchronouscopes is working. Draw & explain.

- How Synchronous motor is started. What type of motor is used for pony motor.

- When two generators are running in parallel, if one game is taking more load what is the cause. (governor and droop setting in detail)

- After two weeks in dry docks if the generator started and if it's voltage dosen't come up.. what is the reason.
  What you do ? explain in detail.

- During main power failure if emergency generator do not come in to power what you will check.
  What is a relay.
  Why voltage are used in electric circuits.

- What are the garbage disposal regulations of Marpol.

- What is inclining experiment
  Explain whole procedure in detail.
  What are the weather condition should be ?
  If there is wind what you will do.

- What types of life boats used in ships.
  What are the safety procedures to follow in free fall life boats. What are the things you carry on life refts. How a water is stored in life rafts.

DAY 2

TIME 2.25 HOURS

1) Why do you carry out Phosphate treatment ?

2) How you remove the hard scale on water side, if you notice it during boiler external survey ?

3) What are the checks during load line survey ?

4) What are the checks during safety construction survey ?

5) Any special checks for bulk carrier over 20 years ? (close up survey)

6) What are the fire safeties on a galley ?

7) Where do you find class A-60 bulkheads on a cargo ship ? Passenger ship ?

8) What are the checks for a passenger ship safety equipment survey ?

9) Suppose your ship is scheduled for dry docking , How do you prepare the ship ?

10) What are the items needed to check for class renewal survey for hull ?

11) Are you confident that you can take over as a chief engineer ?

RESULT - PASS

S.A.P.M.Samarasinghe

Class 2 oral examination

- Draw IG plant and explain (with all alarms)
- In ballast passage what is carried on cargo tank.
- Duty oiler informs you there is a tube leakage on economizer what is the action you take.
- During maneuvering time air compressor cooler tube leaking what are the action you take.
- What are the regulations for air bottle to start engine.
- Why there is a separate air compressor for control air.
- During main engine operation tie bolt getting slack even after the tight. What would be the reason and what are the actions you take.
- Main engine and hull on vibration. What are the reasons and what are the consequence running with vibration.
- Auxiliary engine one injector starts to leak how you identify it during engine operation.
- Your ship ground and goes to dry dock for hull repair how you inspect the hull.
- Ship not goes to dry dock just after refloat what did you check.
- When was enforced manila amendment on Sri Lanka.
- According to the manila amendment what is the validity of Sri Lankan COC.(New COC only valid until 31st December 2013.then it must be revalidate with 5revalidation course.)
- What are the regulations comes to engine room staff through the manila amendment.
- Draw the single phase induction starter.
- Why there is an excitation current in the synchronous motor.
- What will happened connect 240 V bulb to 220 V supply.
- What is the last M-notice.
- What is 2011-02 M-notice.
- Why it is carried load line survey.

- Tell me the validity of load line survey. What is the window period of the certificate.
- Validity period of safety construction cert. and its window period.
- How to test operation of engine room hi-fog system.
- A person stuck inside the enclosed space. As a 2nd engineer how would you take him out from the danger.
- Tell me all the certificate carried on board.
- What are the survey period of annual; renewal ; intermediate and periodical survey.
- Time duration of pressure testing of CO2 bottle.
- Testing period of CO2 bottle level and what is the level to refill the CO2 bottle.
- How did you measure CO2 bottle level on board. Tell me the complete procedure.
- What are the inspection you carried out after dry docking the vessel.

I WILL PASS YOU.....

Class II Orals examination

Name : P G M Aluthwaththa.

Date : 01 Dec 2011

Result : Pass

Examiner: Mr. Leslie Hemachandra

1. What are the companies have you sailed with?
2. What types of ships do you have in Seaspan?
3. Have you been dry dock?
4. What are the reasons for dry docking?
5. What is the procedure for preparing for dry docking?
6. What are the IW class requirements?
7. How do you check fuel timing on MC engines?
8. How do you do it on ME engines? (He knew that I had attended for ME engine course)
9. How do you set fuel timing on ME engines?