C/E ORALS QUESTION BANK

1. As CE what is your role with ISM and what can you tell me about it. Explained in detail, mentions various sections, also spoke about SMS
2. MLC – in detail what do you know about it. 4th pillar, 5 titles and contents and so on.
3. As CE what Certification are you directly involved with (IAPP, IOPP,ISPP, EEI, Load Line Etc. I listed them off and he was happy.
4. IAPP, in detail explain. I went over the cert, the additional documentation, Knox tech file (I went very in-depth with it and he was very please), I mentioned the sulphur limits and the ECA's etc.
5. ISPP In detail from system to certification. Listed of the regs, mentioned MEPC, he progressed this to system maintenance and tank entry. (TRA, PTW, Enclosed space entry (mentioned the safety's and also the testing and atmospheric conditions that need met) also asked about problems associated to health with raw sewage.
6. FW production on your vessel, from sea to tank. Regs, treatment and maintenance.
7. Load Line Cert in detail. Mentioned the conditions of assignment and ran through all I could remember mentioned water tight doors. He was happy
8. Water Tight doors in detail. Mentioned all rules & regs, operation times, emg supplies, 4 door classes and he was happy.
9. Scenario – New cadet joins vessel as CE what is your responsibility. Mentioned MLC, ran through the basics. (make welcome, inductions, sign on, emg duties, meet staff, complaints procedures)
10. New cadet (female) comes to you with harassment claims from member of ER team – Actions. I mentioned that with master having overall authority and the sensitivity of the matter the meeting would be with both Master and myself. Contacted office, MLC mentioned again. Separate meeting for the accused; Repatriate one off them until mater is resolved. (he seemed to want me to mention that I wouldn't keep both on-board at same time)
11. Emergency Generator and Switchboard tell me the rules and regs, testing requirements etc.
12. Scenario – Emergency Generator cooling pump drive belt fails, engine overheats and no spares on board, Actions? I went in to detail regarding COC, inform class, flag, port state. Raise Non conformity, place order for new parts Etc.
13. No spares available for 6months, vessel required to sail, what can be done. I went in detail with regards to COC and NC, CAP in coordination with Class we would fit a deck generator connected to the E-SWBD with an approved method and procedure by class
14. Handover as CE on container ship List Certificates
15. What is Planned Maintenance System.
16. What is CBM. How is CBM conducted.
17. How to prepare for Drydock. What to check in drydock.
18. What if there is significant damage to shell plating.
19. When to remove tailshaft.
20. What is tail shaft monitoring.
21. As CE on container what monthly report do I sent to office How to calculate CO2 emissions.
22. How to reduce CO2 emissions.
23. When and why and how is Crankshaft Deflection taken.
24. Bulk Co2 system requirements and operation.
25. How to connect to shore power.
26. Emergency generator Regulations.
27. How to conduct Boiler Survey, including Safety Valve overhauling and setting.

28. Co2 regulation.
29. Annex of Marpol.
30. Refrigeration has air in side – where to see that how to know how to vent and where to record which annex.
31. Joining new vessel and new company as chief engineer, only one hour to handover - what are your main concerns.
32. Talk me through the certificates onboard your tankers. Asked more in-depth about a few certificates.
33. ISM/ SMS/ Marpol Annex6 (Mainly ODS & NOx reduction methods.)
34. LO Analysis of 2 stroke engine.
35. Bunkering shortfall. (LOP, BDN and Full FO analysis and why)
36. Water from your scavenge drain - where's it from? (Thought EGB was far fetched to reach scavenge but that's what he wanted in the end)
37. EGB leak - running dry procedure.
38. Showed an electrical drawing for Turning Gear - explain what it is, how it works and safeties. MSWB safeties, how to test them, what happens if reverse power trip doesn't work.
39. Draw a cross section of a vessel noting G M B & Z, explain them all. Angle of Loll & stable / unstable vessel.
    Explain free surface effect & how as engineers we can cause issues. (Drew a tank with wedges of oil moved from one side to the other and the corresponding changes in centre of gravity).
40. Boiler full survey - water & fire side. Relevant safety checks prior etc. Went onto in-depth permit to work and risk assessments.
41. Setting both boiler safety valves & EGB valve - can CE set these? Would they all be set at the same pressure, and why not?
42. Firefighting systems onboard.
43. Large 2 stroke main engine on fire - water mist & fire teams unable to extinguish. Talked through CO2 system & release in great depth.
44. Wanted to know purpose of capillary tubes, what happens if distribution valve left closed, how do we know it's released, how do we know it's extinguished & what checks before allowing BA teams into ER.
45. Your on a 2 stroke engine ship in your cabin and you hear a loud bang (vessel ran aground) what do you do? Went through checks around vessel, shutting down engine, sea inlets, emergency generator if necessary
46. What checks do you do to know it's ok to start engine? crankshaft deflections
47. How do you know your shaft is ok? I said check bearing clearances and check alignment.
48. How to check shaft alignment? Laser if you have onboard or taught wire….I wasn't really sure
49. How do you know you propeller is ok. check header tanks.
50. Your seal tank is leaking and its not coming into the vessel what's your actions? I said if it was a pressurised tank I would reduce the pressure to reduce the flow.
51. What's your actions as Chief Engineer. Contact office, vessel need to go to drydock for repair
52. How to you prepare for drydock? What is the docking plan?
53. Your vessel is all fixed your out the dock and your start you engine and the turbo is vibrating badly, what's you actions? I was thinking he was wanting something to do with grounding!!…. he just wanted me to say I would stop the engine and check turbo
54. You have no spares to repair? Went through running engine without turbo procedure.
55. Tell me some conventions? Tell me about Marpol.
56. Does annex 6 only refer to emissions from funnel. Talked about all Regulations.

57. Tell me about ISM.
58. How does ISM effect you as Chief engineer? Talked about SMS
59. What other system of ISM will affect you.
60. How do you know your vessel is compliant with ISM? SMC, DOC
61. 3rd Engine calls and says a generator that had been idle for some time has been started but isn't producing any voltage, what's your actions? Field flash
62. Name ships certificates.
63. What EIAPP?
64. What switchboard safeties? How do you find an earth fault
65. 3rd Engineer tells you he is getting bullied by 2nd eng what do you do?
66. There is a fire in the engine room its at the point where its to big to be extinguished by portable extinguishers, whats you actions?
67. The hifog isn't working? Went through C02 release
68. How do you know C02 has been released?
69. C02 has released what is your actions now? Went through re-entry procedures
70. 2-stroke engine, 2nd engineer is going to do a crank case inspection, how will you assist him in preparation, and give a detailed instruction for the 2nd on what to do and check during the crank case inspection. Started off going through preparation - permission to isolate ME, RA, PTW, all engine isolations, enclosed space entry procedures and so on. Described in detail inspection on all running gear within crankcase, (Got asked follow up questions on a few points) + crankshaft deflection - (ship condition, and apart from maintenance when would you might take deflections - after grounding, prior to dry dock, scavenge fire) Was keen on tie rod inspection, wanted more than checked tightness, not sure what additional he was after.
71. What would you do if you found metal in the sump? Is it what does it look like, magnetic ect, just try and narrow down where it came from, inspect part.
72. Micro-biological attack, what would be the signs, and what treatment?
73. Bearing is past point of use, no spares onboard, what would you do to get ship to next port? Went through procedure for hanging crosshead and removing con-rod. Fuel pumps, exhaust valve, stop cylinder lubrication, running at reduced load. And be aware of critical vibrations and starting black spots.
74. What would you do if you we're in a black spot? Turn engine on gear or try kicking engine in opposite direction.
75. EGB hydrogen fire - response
76. Sox - apart from low sulphur fuel, what else could you do? Approved EGC systems, explain how Open and closed loop work, values, what to measure
77. Nox - how to control, described all systems primary and secondary
78. Went on to CCP, what position does your CCP fail safe to, said it failed at last position, but described other systems has fail to 0 pitch, or to 100% ahd pitch, just depends on the configuration you want, pros and cons of each fail safe.
79. Rudder integrity, security of fitted bolts (fretting etc), weardown and jumping clearances. NDT on tailshaft, MPI.
80. Damaged bottom plate, check internally for damage to longitudinals/frames etc.
81. Third Engineer is going to remove a pump motor, how to make sure he is safe and correct? R/A, PTW, TBT, isolation, noting connections etc for reconnecting, take a pic
82. Surveys – ISM, list some certs
83. . Any certs which don't have annual or intermediate audits - ISPPC
84. Preparaton for ISM Audit from engineering side.(PMS,Records,Testig of equipment IOPPC intermediate survey- Unique to UK flag is internal visual inspection of OWS.

85. Explained set up of the online exam and what to expect
86. Brief look on his computer at my Discharge Book scans and started asking about recent vessels
87. Describe engines on current vessel – I did so and it led into gearbox and CPP
88. How does CPP work on my vessel, what happens if it fails and you need to get back to Port? Went into fail set in last position.
89. What to then do to control vessel – was looking for regulating engine speed.
90. If changing engine speed, what factors to consider? Shaft generators in particular...
91. Can you operate them in parallel with auxy gens? What happens to distribution should engine speed change and still on shaft gens?
92. How to synchronise aux gens if synchroscope fails? Explained lamps and possibility of multimeter if desperate.
93. What do you expect to see on the multimeter in this case when synchronised? Or when 120 degrees out.
94. Refrigeration – what to look for if reported that meat room is experiencing high temp? Mentioned several things but he was looking for the condenser being choked.
95. Led into how to rectify issue and how to test afterwards. Also how to test for gas leakage within condenser.
96. What safety features on a boiler?
97. How is level monitored remotely to allow alarms and trips to operate?
98. What different level alarms would you expect to see and what would happen at hi-hi level.
99. How does feed pump regulate supply of water if running continuously at constant speed?
100. What feed pressure might you expect for 12 bar boiler?
101. Differences between 2 strokes and 4 strokes?
102. 2 stroke cylinder liner inspection and what you would expect to see? Typical wear rate after 25000 hours?
103. Crosshead inspection – what to check and where?
104. What fixed fire fighting systems on vessel?
105. When to use Hi-Fog and then when to go for CO2?
106. When would you allow anyone back into space after CO2 discharge?
107. MARPOL – what if OWS fails on voyage? How to manage for rest of trip? Other actions to take such as reporting and what to record onboard.
108. Garbage – what to do with electrical waste? Name other types of Garbage...? If someone wanted to get rid of loads of old cooking oil, would you incinerate? Would you put into Sludge tank?
109. What annex is Air Pollution? What does it cover? What certs required?
110. Explain technical file
111. Explain ISM
112. Loss of CCP control on bridge, what now? ECR control, if not operable from here the local to engine, constant communication with bridge and so on.
114. In dry dock, find that one blade is damaged, what next? Talk to class, service technical, technical super, assess seriousness of damage, might be able to be repaired, ship may carry spare blade. Would probably need to send blade away to be repaired as quite a specialised job. Talked about MAN propeller repair service.
115. If you put a replacement blade on, what might you do? Grind surface down to match worn profile of other blades.
116. What is impressed current protection and advantages
117. Special survey inspection of tanks, after internal inspection what next, went into hydrostatic

test of tanks. What is the danger of doing it on large tanks?

118. Compare synchronous and induction motors, advantages and disadvantages
119. Motor speed control methods? Went through all I could remember, he wanted me to mention DC generators tied to DC motors.
120. Difference between Halon and CO2 in firefighting
121. Safety certification, list cargo ship safety certificates.
122. List other certificates. Went through all individually
123. Picked up on IEEC, what is it? - talked about chapter 4 of annex 6, EEDI, EEXI, SMEEP, CII
124. ISM - what chapter that would be of most interest to a C/E? Chapter 10 maintenance and ships equipment.
125. What are critical equipment? Where would it be indicated that they are critical equipment? PMS
126. Ballast water treatment convention, difference between D1 and D2, how does ballast water treatment plant work?
127. 4/E calls, OMD gone off. Procedure, stopping, cooldown etc. Investigation, T/G Amps, visual inspection, lubricating pipe security, bolts. Find a bit of metal in the C/C, how to tell what it is? White metal non-magnetic Where from? Either main, BE or X-head bearing. Restarting after repair, monitoring bearing temps and LO flow, stop and recheck etc.
128. Boiler survey, shutdown, drain etc, top doors first Furnace inspection and possible faults
129. Waterside inspection and possible faults External inspection
130. Safety valves strip down, measure setting, measure spring, check seat and lid Setting procedure, wanted to hear using calibrated pressure gauge.
131. EGE safety valve setting – who can do it
132. Switchboard protection devices, testing reverse power trip.
133. Earth fault monitoring and tracing, most likely locations (galley, laundry, deck lights), why multiple earths are dangerous
134. Drydocking – at anchor before drydock, what to do - tank soundings, M/E deflections to compare after docking.
135. On the blocks – dock bottom walk, bulb, thrusters, bilge keels, inlets/discharges, prop (locking plates on bolts if CPP), shaft inc weardown, shaft seal,
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156.What annex is Air Pollution? What does it cover? What certs required?
157.Explain technical file
158.Explain ISM
159.What certificates required under ISM and validity of SMC.
160.what tests we do on board and during bunkering, would I ever reject fuel and why? How would I monitor the fuel being bunkered – talked about constant drip method and visually inspecting the fuel during the whole bunkering process.
161.Looking for solids or water in the sample etc. Also mentioned stopping/refusing to bunker and letter of protest.
162.certificate duration, how would I know when they were due for renewal – Told him we had all certs in our PMS system and also a dedicated file with original certs in. That all expiry dates were on the cert and that they all ended at the same time harmonised system of survey. Renewed at 5 year survey
163.Drydocking – what would the yard need in advance and just prior to Docking – Spoke about shell expansion drawings, GA drawing, list of 3rd party companies, DD work list including full breakdown of work scope. Services the ship would need, I.e fire main, shore power, 2 gangways etc.
164.walk through of a hull inspection. Started at the bow section and worked my way aft. Mention hull plating damage at the fwd section due to panting and pounding, inspecting sea boxes for blockages and corrosion of gratings etc, inspecting any openings, then a propellor inspection for cavitation or damage and that any repairs should be discussed with the class surveyor. Briefly went onto rudder inspections and checking for water by removing plugs and also stern tube bearing wear down measurements.
165.Lifeboats and the tests carried out on lifeboats. I went through weekly testing of lifeboats, checking contents, monthly launches/lowering. Lifeboat drills.
166.He asked about annual and 5 yearly testing so spoke about the brake – checking of brake pads, dynamic testing of the boat at full capacity plus 10% then a re-inspection of the pads afterwards. Plus inspection of Davits after the tests for damage/cracks distortion etc.
167. High voltage and the safety precautions when working on high voltage systems – Spoke about gaining permission to start working on HV systems, PTW,

isolation certificates and risk assessment etc. The need to earth down breakers or generators due to the residual voltages still in the system even if things were isolated.Closing the neutral earth resistor on the generators and fitting earthing straps to generator windings prior to working inside the generator or on the windings etc.

Started with an overview of the vessels I had worked on. This lead to a discussion of Diesel Electric Propulsion. How the speed of the shaft is controlled. I said I had worked on vessels with both Syncroconversion and Cycloconversion. He asked me to explain the principles of each and the advantages/disadvantages. Discussed harmonics, he asked what is the source of the harmonics, which ones are a problem and how to eliminate them. Asked about how PEMs are cooled. Inspection of High Voltage Equipment. He asked how you would know the PPE required for HV work. I answered with COSWP the company SMS, limitation of Access, Switching plan, Permit to Work, Sanction to Test, LOTO, Interlocks on generator start and HV Breaker. Increased liner wear on one unit of engine – possible causes

168. Lube oil properties, how the quantity is regulated. Examiner wanted to bring in slow speed engines as I hadn't worked on them, however it led to a chat about the medium speed engines I had worked with which had liner lubrication. Talked about changes to the Sulzer ZA40S over the years and liner lubrication on MAN 58/64. This conversation lead us on to fuel oil properties.
169. Engine performance. Late ignition in all units. What would you check on the fuel lab results. CCAI, MCR, Ash content. What would you do to engine in the event of bunkering fuel with a longer ignition delay. How to change fuel injection timing on a jerk pump, MAN 58/64 eccentric lever for fuel pumps, adjustments made on WECS 46CR.
170. Fuel sulphur requirements, world wide and ECA. What would be the actions if operating in an ECA and Exhaust Gas Cleaning System Fails. Who you would inform, how you would you inform them, and what you would expect from Flag and the Port State.
171. Boiler Survey – isolation plan, water side inspection, furnace inspection. You find a crack in the water side. How do you organise repairs. Inspect afterwards. How do you pressure test the boiler after the repair has been made. What pressure do you test to. How to set boiler safety valves in the presence of Surveyor.
172. how to go about setting the economiser safety valves while underway.
MARPOL Annex 6 – Went through regulations 12 to 18. I was asked about VOCs and what types of ships it relates to. He asked about Nox and why it is a problem with diesel engines. I mentioned that the vessel I am currently working on had an SCR unit on the generators and main engines, he
asked me to explain the other methods. Exhaust Gas Recirculation, Miller Timing, Direct Water Injection, Water in Fuel emulsification.
173. ISM, asked who issues the DoC and SMC. Asked about the validity of the certificates and survey cycle.
174. Major non conformities and non conformities.
175. What is ISM? Explain in details all Chapters part A
176. You mentioned Non-Conformity. What is consider as Non-conformity give a few examples?
177. Is there only major Non-conformities?
178. There has been an inspector on board your vessel and the have pointed out one Major Non-Conformity. Explain your action as CE.
179. You mentioned Emergency Preparedness. Explain what are they?
180. Vessel has run aground Bridge call ER, Your action as CE in detail.
181. Divers Report 1 CPP blade is badly damaged, Your action to prepare vessel for unscheduled dry docking.
182. What Condition should your tanker arrive in drydock?
183. Walk me through dock inspection fwd to aft
184. You found propeller clearance too Large compared to previous record Action as CE

185.How Muff Coupling is dismantle
186.What checks on rudder when in dock?
187.Class Survey Mention they have found some dents not severe on bottom plates
188.that wasn't observed by the divers. What are the factors whether to change the plate or do a cosmetic work.
189.The propeller is repaired any other maintenance required on prop before leaving the dock.
190.Tell me about SSE Ships Safety Equipment Certificate. What Equipments are covered under this certificate.
191.Explain how Life boat/release gear and mechanism is tested, both freefall and davit launch
192.What are the requirement of the centrifugal brakes. What is the stop distance?
193.Where are these information and specification available?
194.What Is Critical Equipment ? Mention a few and explain
195.Enclosed space entry in detail from planning to completion, including rescue and medical treatment for victim
196.MARPOL Annex 6 Chapters 12 to 22. Explain all. Went in depth on ODS, NOx, SOx , VOC, Bunker and SEEMP
197.SOx treatment other than using Low Sulphur. Any alternative Fuel other than Fuel oil.
198.Tell me about Inert gas all operation, safeties and regulations.
199.Explain Flammability diagram
200.You mentioned Volatile Organic Compound what are you doing on tankers to combat this.
201. List as many ship certificates as you can
202.Which certificates are associated with MARPOL (IOPP, IAPP etc)
203.What is a survey cycle (annual, intermediate, renewal)
204.How do you know when your Annual is due – (he wanted to hear work back from the expiry date as the issue date may change if new certificates are issued)
205.What is the window when your renewal survey can be complete (within 3 months before expiry – not 3 months after)
206.Tell me about MARPOL annex VI
207.Discussed ODS substances – as a surveyor how would I know you had ODS gases on board before looking around – he wanted to hear that the IAPP cert comes with a supplementary list of equipment associated with it.
208.You mentioned safety construction certificate, what does it include?
209.Have you head of a class A machinery space – he went on to explain this was a space with internal combustion machinery such as engines and boilers
210.As C/E Talk through preparing an Aux boiler for a surveyor to inspect at the next port – he also mentioned consider cleaning the boiler water side before inspection
211.What does a boiler survey include? (water side, furnace side, external, mounting and fittings)
212.Talk through inspection of a safety valve overhaul
213.Talk through inspection of a gauge glass overhaul
214.How is the water level determined remotely and how does this work
215.You have a 2 stroke slow speed engine onboard, you have a total failure of the turbocharger – how will you get to a safe location to repair it – (talked through locking the turbo shaft in position, running at reduced loads, increased watchkeeping, extra cooling, auxy blowers running)
216.How will you prevent the air from the blowers passing through the air side of T/C – (blank off the compressor air outlet from T/C)
217.The vessel has a damage management plan – what does it include?

218.Asked about emergency preparedness from ISM – how often are drills carried out and why? (for familiarisation and build confidence in the crew for action in emergency.
219.What instructions would you give to a crew member of a fire team in charge of the BA board control.
220.
221.Give an example of a major non-conformity and what would be the result of this? I.e. could you sail
222.Big cruise vessel complete dry dock
223.How do you repair and check propeller
224.Draw the diagram of hydraulic jack nuts showing how the pressure is acting.
225.Lub oil analysis report.... what all things u check.... i missed solid particles checks..
226. 5 Grounding actions
227.Boiler survey
228.Ism and sms
229.Main bearing removal
230. Main engine performance analysis ie power card and draw card.
231.Azipod thruster, stabilizers checks
232. Refer systems... moisture in system .. indications and repair
233.Asked detailed on why was moisture not able to choked at Tev and not able to cross tev
234. How the viscosity has a relation with mixing with other liquids and what are the effects
235.You are on anchorage One day to dry dock as C/E your action.
236.Vessel on dock now surveyor will come tomorrow you got permission to check what will you check (means looking for hull , rudder , propeller , all what you check on them.)
237.Bunker calculation Rotterdam to India.
238.Tank planning, why not mix
239.Sulphur content,
240.I told both s% and so2ppm/co2%ratio
241.Back to dock stern tube seal arrangement inspection, chrome liner wear told about repair, depending upon groove size because it is case harden will go for resurfacing else if construction has distance piece will remove so that change seal seating area.
242.Reaching in port prepare for boiler survey,
243.You told risk assessment and ptw where you found ptw on board
244.told about COSWP and company sms
245.Economizer safety valve set up I told not possible in port will do in sailing c/e authorized to do so not req surveyor.
246.You told sms how you prepare for audit/
247.I told will go through last audit report what all item last time check will prepare all of them and any observation NC or major NC last will confirm rectified,
248.What is NC, major NC, observation.
249.If an major NC what you do can you sail, no can't sail until dispensation certificate how you get
250.Told him about downgrade nc, adopt alternate major stated by class then get dispensation and sail.
251. What all certificate you check and there expiry, b/w initial and renewal
252.Annual intermediate for IOPP,
253.Wat about ISPP I told intial and renwal additional survey if any repair.
254.How you get
255.Iapp certificate,
256.Nox technical file.

257.Back to dock hull inspection found damage in fuel tank how you inspect
258.Told him assuming tank is empty because if having oil will not able to transfer and explain enclose space entry procedure, I mention exi light so next
259.What is Exi, explain him about circuit energy ,
260.30v, 25mili w,50miliA, store energy 200mirojoule.
261.Taking Over as Chief engineer.
262.What all you check in Fuel Oil Analysis Report.
263.Lube Oil Analysis Report
264.Work & rest hours regulation.
265.What you know about MLC.(Little bit more than titles)
266.Annex-6 in detail. I mentioned in detail about reg 8,12,13,14,15,16 & 18.
267.How will you do Unit Overhaul(complete dismantling & assembling) and get it surveyed credited by class surveyor.
268.He was not satisfied by my answer so he asked in a simple way that after unit overhaul what all documents u will send to class surveyor. (I mentioned liner calibration report, piston clearances, onboard LO test report, taking photos at all times and sending same to surveyor.)
269.Enclosed Space entry when I was mentioning crankcase entry for removing piston palm bolts & stuffing box bolts.
270.After unit overhaul how you will run the engine? (mention about increase cylinder lubrication, run at half ahead for specified time given in manual, crankshaft deflection, open the under piston and crankcase door for inspection. He was satisfied.
271.From where does SoX regulation come from?
272.EEDI , EEOI & SEEMP
273.Then questions start with generators about contamination of water and fuel oil ,what are the effects on AE
274.2.what kind of fuel are using onboard, effects of low sulphur fuel in ME
275.3. Then next ques. About economiser soot deposit what are problem including main engine &TC problem due to back pressure (looking for hydrogen fire)
276.4.ISM(10min)
277.5. As chief how you know engine staff familiarise with ISM
278.6.Annex vi
279.7. Certification specially interested in passenger ship certification
280.8.PSC inspection
281.9.Emergency gen regulation
282.10. Life boat survey(engine starting regulation)
283.11. Dry dock preparation
284.12.Hull survey (interested in anchor and anchor chain inspection , how they connected)
285.13. How to check shell plate thickness and how much it should be.
286.14.propeller and rudder inspection
287.15.BWM. What is D1 and What is D2 ship
288.16. What are the problem with double hull ship
289.What is ISM Code. How does it affect you as a Chief Engineer?
290.Tell Me about Marpol Annex 6?
291.Where will you find the NOx values for a particular engine documented?(EIAPP cert.)
292.What is the NOx technical file?
293.Tell me about MLC?
294.If you have a Cadet onboard what is the special requirement for them if any?

295.Talk me through the preparation for drydock?
296.How will you carry out the bottom survey?
297.If the propeller is damaged can it be repaired?
298.Tel me about the tail shaft survey?
299.If the liner had deep grooves what will you do?
300.Is the local FFA operational in drydock?
301.What maintenance is carried out on the local FFA in drydock?
302.Is there a criteria for replacement of the CO2 gas?
303.Tell me how you will make an enclosed space entry?
304.What are the PMS routine for the B.A Compressor. (Looking for replacement of cartridge and the air quality cert.)
305.What is classification societies
306.Difference between : Statutory Survey and Classification Survey.
307.What are periodical survey (or) Annual, Intermediate and Special survey ?
308.LORD LINE SURVEY CERT with SUPP (What is SUPP).
309.Go Through A LOAD LINE SURVEY.
310.WEATHER DOOR TESTS (LOOKING FOR CHALK)
311.BALLAST TANK check in LOAD LINE (AIR. VENT)
312.List Ships CERTIFICATION + WHO ISSUES + WHEN TO REVALIDATE (ANNLAL, INI, RENEWAL)
313.Safety Equipment CERT - Wanted The name before 2'nd and 3'rd Annual (PERIODICAL AUT INT)
314.What do you know about PSC.
315.How are ships Graded (5 POINTS)
316.Who covers EUROPE + CANADA (PARIS Mou).
317.What are the names of 3 Types of PSC AUDIT .
318.As C/E you should know Full ISM so where Is it covered about Company Internal Audit and how often.
319.You get a new vessel which certificate is issued. (AN INTERIM SMC).
320.What is the point 5 in CHAPTER 14 2 TO GET an interim SMC?
321.HAVE you read UK Health & Safety ACT 1997.
322.What is required if more than 5 people ON BOARD.
323.What is requirement if more than 10 people ON.
324.All the certificates you have onboard. He then went through the list and asked about a few of them.
325.Bunker liability insurance then asked what other insurance certificates should have.
326.What other document of compliance should you have other than the one issued to the company regarding the SMS
327.Marpol annex 6 in quite a lot of detail.
328.Energy efficieny design index what are the regs for new builds and older ships.
329.What is CMS ?
330.What items are covered by CMS ?
331.What items are not covered by CMS ?
332.Explain variable injection timing for a 2 stroke engine.
333.Explain lub oil system of a 2 stroke engine what characteristics does the oil need to have Scavenge fire onboard what are your actions.
334.If there was the possibility to release a fire fighting medium into the engine would you do it? I said not if it can be avoided due to damage it would do due to rapid cooling of the hot engine

335.How does the govemor control the speed of an engine.
336.Refrigeration system tripping on HP. Causes
337.If there was air in the system how would you get rid of it. I said put the system condenser and release it into a recovery bottle.
338.Went into marpol annex 6 again and what the regulation with regards to CEC and HCFC.
339.If you have an issue with a piece of equipment how do you know if you need to inform class and flag or not.
340.6 Months before dry dock what are you doing to prepare and sending to drydock.
341.2 weeks before what are you doing. 342.Once dock is empty talk me through your inspection.
343.What's the first thing you want the shipyard to do.
344.What's the first thing you want the shipyard to do.
345.Bilge keel inspection and construction of the bilge keel.
346.Anode and ICCP how do they work.
347.As C/E how will you prepare the vessel for a safety equipment survey.
348.What periodic maintenance do you carry out on your Fixed CO2 Ext syatem.
349.Wat do you understand by Category "A" Machinery Space and What are the requirements.
350.Class A-60 Bulkhead requirements.
351.What maintenance on your Deck Foam system with regards to safety equipment survey.
352.List all certificates relevant to your ship supplement to MLC Certificate.
353.How many parts does the supplement (DMLC) have and what do those parts state
354.Validity of the Civil Liability Certificate and what specific date.
355.Pre-Requisites for issuance of Interim SMC.
356.Write down all the statutory, mandatory and class certificate for your vessel.
357.Wrote approx 22 certificates. Tell me about Civil liability certificate.
358. Then asked about how the certificates are issued to vessel. (Looking for survey cycle in Detailed.)
359.What is document of Compliance (DOC in details).
360. Interval between Dry-docks. (Looking for Underwater Survey can able to skip docking).
361.When you can get away with doing underwater Survey. (Looking for Antifouling paint scheme and Anodes scheme. If 5 year scheme then only can get away with underwater survey.
362.Prepare for Underwater survey.(Specially Looking for Lock out- Tagged out).
363.How divers will know which area they are surveying. (Marking at Underwater Area.)
364. Dry dock preparations.(Asked in Detail.)
365.How to measure Tail shaft wear down. (Asked in detail and draw exact diagram where you will measure clearance.)
366.Asked it is required to drain stern tube system oil for checking wear down. (I said not required because of seals it will not leak out).
367.How anodes attached in dry dock to hull. (Welding).
368.Then asked about what things you will check before welding. (Looking for the adjacent bulkheads has tanks of fuel oil lub oil then you will plan early and empty the tank and carry out cleaning of the tank).
369.Then asked how you will prepare tank for entry. (Detailed explanation of Enclosed space entry procedure and specially looking for proper Isolation of tank by fitting blanks between tanks and lockout-tagged out.)
370. What is reactive power. (Wanted detailed explanation).
371. What will happen if Reactive Power is more. (Increased fuel consumption of Generators).
372.Generator is running and there is no voltage and voltmeter and AVR is not a problem. (Looking for flashing up of excitation winding by battery.)

373.Do you have to disconnect AVR. (yes. It is Electronic device may get any faults by reverse current flowing in it.)
374.How AVR works. (Looking for controlling the Strength of magnetic flux by varying the excitation current.)
375.After flashing up also no voltage. (Faulty diodes on the rotors)
376. How you will check diodes. (Multimeter).
377.Why you require Shaft Earthing.
378.How you will know it is working properly. (Volt meter mounted).
379. If faulty volt meter then how you will check. (Multimeter).
380.What problems will you face if earthing system is not properly working .(Bearing and thrust block pitting by Sparking.)
381.What checks you do on holding down bolts. (Tightness and check for fretting corrosion.)
382. Explain how thrust transmitted to the hull. (Detailed explanation of construction and working of thrust block).
383. New ETO joins ship what certificates he must have. (STCW Approved Electrical training course for ETO).
384.You are joining a new vessel, what would you look for, outside the ship, inside the ship and in the machinery space.
385.Venting arrangements for tanks, what tanks have flame arrestor gauze, whats the danger
386.when ballast tanks are fitted with these gauzes?
387.List certificates carried onboard, he concentrated on the IMDG Code and ship security cert.
388.What is your prime role as chief?
389.One of your main generator ACB's fails, how are you going to remove that breaker.
390.You inspect the breaker and it has severe arcing on the contactor surfaces, what does this indicate?
391.What will you look for on the replacement reaker. (KVA) what does this indicate and how is this calculated, what other values are you looking for?
392.What tests can you carry out on the new breaker, he wanted the over current trip via current injection.
393.How do you calculate the fault load current on a 690V system,
394.how do main propulsion syncro motors start to turn.
395.Why do some ships use HV.
396.What would you do if a star delta starter does not change over to delta, what would happen, what could you do to run in that condition.
397.Ship is holed in a ballast tank above the water line, who do you inform, tank needs to be prep'ed for class surveyor how long do you ventilate for (min 24hrs) tank entry wanted the solas regs for O2 and Hydrocarbons.
398.Hull plate needs to be cropped out , how would you test the repair, (he was looking for VacBox method ?????
399.Going to Drydock, what are your concerns as chief engineer, (he was looking for no slack tanks)
400.What would you prepare before the docking,
401.Why trim by the stern? what is on docking plan?
402.What planned maintenance do you do on Azi pods?
403.You receive Lub oil analysis back for your azi pod, what are you looking for and what does it indicate.
404.Why might it not indicate a failure is soon to occur.
405.What elements would you look for on a main engine sump LO analysis, (looking to list all the

elements in a white metal bearing).
406.How would you carry out engine power assessment, what would you compare it to and how would you present the findings to the super?
407.You have a Nigerian second engineer join, what would you check he had with him? Looking for CeC and original Ticket, plus safety certs and MCA discharge book.
408.You are writing a set of chiefs standing orders, what would you include and why.
409.How would you know they are being carried out?
410.Certificates on board, validity, importance of IAPP certificate
411.What information does bunker liability certificate give ? I didn't know but I told him that I can find out n board.
412.As a C/E you are joining a company for the first time, you have no idea what to expect. What checks will you carry out.
413.For the same vessel, Certificate issued on Mar 11. Revalidated in May 12. No survey after that. What will you do ? - I told him that the certificate is already expired. I will check the correspondence between the master & the DPA or tech. super or class. If no exemption received then I will refuse to sign the article. - I think that's what he wanted to hear.
414.Some detail information about IAPP certificate.
415.SOX & NOX regulations. - I told him about the current as well as the future cut downs. I think he was ok with that.
416.The vessel u are sailing on, runs aground, what will be your first action ? - check water tight integrity in the engine room.
417.What important checks you will carry out ? - sound all the tanks including cofferdams, compare with previous soundings to notice any abnormal rise in level, I will advise mate to sound ballast tanks & the coffer dams, check the cargo holds as well.
418.The vessel has a breach in ballast tank, she is brought alongside with the help of 2 tugs ? the port has a drydock facility. What all things will u prepare ? - I think he wanted to hear about the emergency preparation of dry dock plan, sounding tanks, keeping dry dock & shell expansion plans ready for use.
419.Where will you find information about plate material ? - shell expansion plan. (I didn't know this).
420.What checks will you carry out in E/R - I told him that I will check M/E crankshaft deflection, bearing clearances. Compare the readings with previous readings & the sea trial readings.
421.What if the readings are drastically out ? - I said that it's pretty obvious that the crankshaft is misaligned with the respect to the bed plate or the hull structure. The engine will have to be completely dismantled & the bedplate may have to be rechocked.
422.How will you check misalignment ? - I told him that earlier they used to use the string method to check the alignment but these days they use the laser method which is pretty accurate. - I guess he was ok with the answer.
423.What checks will you carry out after vessel the is resting on blocks. - I gave the standard answer of ship's bottom checks including rudder, propeller, paint work, the breached tank, adjacent frames with NDT testing., stern tube seals, poker gauge readings for tail shaft liner wear & etc.
424.Important jobs that can be carried out in E/R ? - ship side valves & pipes can be overhauled.
425.As a C/E in what condition will you not let the E/R go on UMS ? - If fire detectors, automatic fire fighting system is not working. If the E/R bilge alarm is not functioning. If M/E OMD is not working.
426.CEO's responsibilities.
427.what are the areas of main concern in ISM for chief engineer.---discussion on ISM

428.Certificates to be carried onboard.--asked expiry for some..
429.what is in IAPP..what is mentioned in IAPP certificate
430.explain IOPP certificate
431.Regulations for ows n where it can be run,what are the constituent to prevent oil pollution.
432.Where can u find refrigerant is ozone depleting or not.--in IAPP certificate
433.There is a flooding in engine room ,actions to take.where to record.
434.Oil spill,oil has leaked to sea actions to.
435.Where can the procedures be found for oil spill procedure.—sopep

436.Asked bout SOx and NOx..how to control..regulations..
437.What is the difference between Risk and hazard..what are the elements of risk assesment.—good discussion on it
438.Received a report on fuel oil from shore company what to see in it.—analyse
439.What happens if you dont maintain the tempreature of fuel oil as per the f.o report.
440.Properties of Fuel Oil and remedies incase conditions not met.
441.Retention for bunkering delivery note.
442.Document associated to ism and there endorsement intervals.
443.What is CCAI and how it effects engine..
444.Vessel sailing in ECA region on low sulphur,as the vessel goes to atlantic it changes over to high sulphur and the ships power/ship drops..what can be the possible regions.----i told him prop curve and the difference of calorific value of the low and high sulphur fuel.
445.Rest hour requirements as per STCW 2010 manila...
446.Boiler survey--mention risk assessment and enclosed space entry..
447.As per Maritime Labour Convention coming next year..what it mentions about.
448.Marpol Annex 1
449.What is NOx,where is it mentioned.
450.What is NOx technical file.
451.How entries are made.
452.Equipments under NOx technical file and what other things mentioned in it.
453.Vessel reaching US in 2-3 days everything is nice n clean second engineer informs that OWS is not working,inspected found oil.what action taken.
454.Entries to be done in ORB.how the entry for faulty IOPP equipment to be done.
455.Boiler safeties and trips.-asked further on it on combustion air.
456.Explain how to cut out HCU for overhauling of Fuel pumps/Fuel Valves.
457.What is very important to check in every port for ME engines on HCU.
458.Where do you check your engine is balanced and how its adjusted in ME engines.
459. when will you adjust your timings regarding fuel,how will you do it.
460.At what temp. you will maintain your settling tank temp in considering your
461.Fuel analysis report- 5 deg above my pour point always.
462..Problems involved in changing over from HSFO to LSHFO.
463.How will you ensure your main engine electrical control system is working satisfactory.
464. CE responsibilities
465.CE handing over procedure
466.Unmanned conditions requirements as per solas.
467.What is safe manning certificate .
468.Scenario:He said your ship is UMS class, you started a some important job assuming you will complete by evening but you didn't…. your actions as CE…..
469. Your ship is safe manned can you ask extra hand for engine room… I said yes
470.He asked how can you request, what proof do you have that your eng crew are over loaded.
471.Asked me to explain Risk assessment, gave a task asked to risk assess.
472.Enclosed space entry…
473.lifting equipment how will you load test and certify a safe working load.
474.Maintenance of lifting equipment, engine room crane safties .
475.How will you familiarize your 2nd engineer?
476.what are all the important things in familiarisation check list.
477.Where do you have A-60, A class bulk head on a vessel.
478.Why CO2 and fire control station are A-60 bulkhead.

479.What type of bulkheads are there on bridge?
480.Who decides the type of bulkhead selection?(answered solas chapter 2.2)
481.Over view of solas 2.2
482.What are all the convention explain them?
483.Life boat new ammendmmends as per solas which is enforced from 1st jan 2013.
484.Asked me latest ammendments in Marpol.
485.Detailed explanation of annex 6 chapter 4 EEDI from 1st jan 2013.
486.Collision bulkhead and Passenger vessel watertight integrity?
487.How does a ship float
488.How does a ship stay upright
489.Draw ship with points, G M B Z
490.What is angle of Loll
491.Asked a scenario with one wing tank half full and angle of Loll and what to do
492.Just joined new ship as chief to new company, had to walk the examiner through it for getting joining instructions to handover etc.
493.Preparing a ship for dry dock
494.What paperwork to be sent to drydock
495.Initial dock bottom inspection
496.Certificates held onboard
497.Asked a bit about load line and MLC
498.Asked about BWM and how it would be implemented now it is coming into force
499.L.O analysis report what to look for
500.F.O analysis what to look for, what if vanadium was high how would this affect your engine.
501.NOx and Sox what are they and how are they combatted, what is legislation for both
502.What is DWI and how does it work
503.What procedure would you write for engineers to Change over from HFO to DO
504.Problems with changing over and how it affects fuel pumps etc
505.Asked about High Voltage, asked me to walk through changing a breaker, HV permit to work, switching plan, isolation and sanction for test etc
506.Asked me to walk through an enclosed space and give figures for O2 and toxic gases as per Coswop
507.How does a ship float
508. How does it stay upright
509. As engineers, what do we do that changes this (G & M)
510.You have 2 slack wing fuel tanks, how does this affect G & M
511.What state do you want a ship to enter drydock, trim
512. How are the blocks set on the correct positions (docking plan sent to yard)
513. Initial dock bottom inspection
514.Hollow rudder water ingress problems
515.Rudder carrier bearing wear down measurement (internally)
516.Typical pintail clearance
517.Hull damage, when would you call class in to have a look (damaged frames etc)
518. Certificates needed to sail
519.IMO conventions name some (solas marpol etc)
520.What is included in a load line survey

521.High voltage and risks with it
522. Isolation of an HV bowthruster motor (switching plans, ptw etc)
523.L.O. analysis what will it show
524. High iron content in L.O. - went onto ask about fretting internally of engine frames/bed plates
525.What is it and how do you know you have it and what too look at next, tie bolts)
526.F.O. analysis and what you looking for
527. Checking engine efficiency (performance monitoring etc)
528.Why do we care about efficiency (looking for SEEMP)
529.Enclosed space entry (actually there at tank not starting from ISM down)
530. Gas tests for enclosed space
531. Limits for gas test as per COSWP
532.What is a hazard and what is a risk
533.Draw main bearing arrangement, what could cause failure? wanted oval journal.
534.Lub oil test? How often? Test done on board?
535.Fixed Fire fighting arrangements? How often checked?
536.Fuel used?
537.Write down all ISM parts.
538.What comes under IMO?
539.MLC rest hour requirements?
540.Ships certification ?
541.Asked what one for bunker insurance?
542.Ships management Hierarchy?
543.You are a new chief engineer and you a joining a new vessel that is in cold layup. Take me through the process from prior to joining till the vessel being ready to sail?
544.Write all chapters of ISM
545.What is DOC and SMC where original DOC and SMC kept
546.Survey intervals internal and external audits
547.Where will you find your duty's
548.Main bearing survey procedures (a brief about risk assessment enclose space permit)
549.Cross section of bearing
550.What to do if one of the stud is struck
551.How much excess pressure can apply (I told i will refer to manual)
552.Still not coming (cut it)
553.Precautions while fixing back checks before and after
554.Tests on lub oil types and intervals
555.How to check low lub oil alarm, procedure and equipment used
556.What to do to maintain lub oil in sump (run purifier)
557.What temperature
558.Sox emission regulations
559.Your responsibility as per SOLAS (regular testing and mainlining critical equipment)
560.What are critical equipment, list
561.What intervals you test emergency generator (start-up test every week and load test every three months)
562.Draw and explain AVR
563.Explain thyristor

564.Draw tanker cross section
565.Flooding in one tank how GM effect and minimum GM
566.What tells how to maintain (damage stability)
567.Minimum work and rest per day and per week
568.Where you will find
569.About MLC
570.New motorman joined how will you know he can handle the job what you will check.
571.You're joining a new company and ship, the ship is a large tanker with a single large slow speed 2 stroke, and you have a four day hand over.
572.What checks do you do when joining?
573.Why do you check for cracks?
574.Which certificates?
575.What's the loadline certificate? How often is it issued?
576.What are you checking machinery wise?
577.What do you check about the generators?
578.What do you check about the main engine?
579.You get a phone call during the night, it's the 4th engineer. He tells you that there's been a crankcase explosion. What do you do?
580.During an examination what are you looking for?
581.Getting the engine fixed what would you be checking for?
582.What safety concerns do you have? (I told him I'd isolate all the systems and put the turning gear in)
583.It's reasonably heavy weather, and your only means of preventing the engine from turning is your turning gear. What then? (he was trying to see if I'd do anything silly despite the danger of the engine turning)
584.So you check the engine over and you cannot find the cause of the explosion. Do you start the engine again?
585.What do you know about synchronous motors?
586.What can you tell me about discrimination?
587.Why does fuses (current protection) get smaller as you go from electrical supply to electrical consumer?
588.You need to change a main breaker in a switchboard. You find one lying at the back of the spares shelf with no label on it. How do you know if it's ok to use?
589.What do you do before dry dock?
590.Why do you keep tanks pressed up prior to drydock?
591.Once you're in drydock what do you check?
592.You find a crack in the rudder, what do you do?
593.How do you test it?
594.What must you do upon completion?
595.The CPP, what checks do you do?
596.How would you check for cracks at the root of the blade?
597.Would you use magnetic particle testing?
598.What would you check about the bilge keel?
599.Why would it have cracks in it?
600.List of certificates you'd find on board

601.What's the MLC certificate about?
602.What are the hours of rest?
603.What 2 other documents uphold the MLC and mean an MLC compliance cert can be issued (hewent on about MLC for some time)
604.If a crew member has an MLC related grievance how is it addressed and who do you go to?
605.Why does port state control come aboard and what are they looking for?
606.If they're wrong in their assessment of your ship/equipment what can you do about it?
607.What is a loadline survey looking for.
608.What actions in an engine room can have an impact on stability.
609.Explain the metacentre
610.Explain free surface
611.Explain loll.
612.What engines have you worked on?
613.How does your variable valve timing work?
614.How do you make sure you're compliant with the SEEMP in your monitoring of machinery? How do you measure your engine's efficiency?
615.You have an IAPP certificate. How often renewed?
616.What do you do to prove you're compliant and what is a surveyor looking for at a renewal?
617.What information is on a bunker delivery note; why is that important (ref; the IAPP cert).
618.What's in the technical file. What does that tell you?
619.What information is on a lube oil analysis from the lab?
620.Why would there be a high iron content in it?
621.In a crankcase inspection how would you notice evidence of fretting and in what components
622.What does fretting corrosion look like
623.Why would the motors get hot.
624.What is impedance.
625.What is a risk
626.What is a hazard
627.What would be on a permit to work for an enclosed space.
628.What is an enclosed space.
629.How do you test the atmosphere
630.What is a gas test looking for
631.If a gas is not on your multi-gas detector (eg ammonia) how would you test for it?
632.What is safe level for Oxygen content.
633.What is safe level for flammable
634.What are the rules concerning lifting gear?
635.What's the difference between 'safe working load' and 'working load limit'. (didn't know; it's the same thing, just new terminology "you might not have heard of it yet").
636.What tests are done on LSAs, how often and to what weight is a lifeboat load tested. Where does this come from.
637.What is the role of the C/E onboard
638.C/E Handover procedures – From sat at home through to handover onboard.
639.This led on to environmental restrictions on a passage plan, what would you do – Nox and Sox
640.What certificates relate to Nox and Sox, what else is included in your IAPP?
641.What other certificates do you have onboard?
642.Tell me about EEDI and SEEMP
643.What is the HSSC
644.What is the difference between annual, intermediate and 5 yearly inspections

645.What is the difference between risk and hazard
646.Enclosed Space Procedures
647. ISM Code – What is it, why, how does it work, objectives?
648.How does a ship stay upright
649.What happens when a ship rolls, how does it return to upright.
650.Difference between Heel and List
651.Draw a GZ Curve and talk me through it.
652.What is the importance of maintaining a positive GM
653.What is the dangers of a negative GM
654.Angle of Loll
655.How far can a ship go before it capsizes, I said 55 degrees (guessed!), turns out it is more like 70 degrees.
656.Load Line Convention. What is checked. Why?
657.Reserve of Buoyancy, what is it, what does a 2 compartment ship mean?
658.Water tight doors
659.What do the different classes mean (A,B,C)
660.Bulkheads:- What do the different classes mean, A and B
661.What is the time factor relating to – hot spots and surface temp
662.What do you need to do if you need to make a penetration
663.MLC, what is it, why, what does it do?
664.Hours of Rest.
665.Write down all the statutory, mandatory and class certificate for your vessel.
666.Tell me about Civil liability certificate.
667. how the certificates are issued to vessel. (Looking for survey cycle in Detailed.)
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682.What will happen if Reactive Power is more. (Increased fuel consumption of Generators).
683.Generator is running and there is no voltage and voltmeter and AVR is not a problem. (Looking for flashing up of excitation winding by battery.)
684.Do you have to disconnect AVR. (yes. It is Electronic device may get any faults by reverse current flowing in it.)
685. How AVR works. (Looking for controlling the Strength of magnetic flux by varying the excitation current.)

686. After flashing up also no voltage. (Faulty diodes on the rotors)
687.How you will check diodes. (Multimeter).
688.Why you require Shaft Earthing.
689. How you will know it is working properly. (Volt meter mounted).
690.If faulty volt meter then how you will check. (Multimeter).
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692.What checks you do on holding down bolts. (Tightness and check for fretting corrosion.)
693.Explain how thrust transmitted to the hull. (Detailed explanation of construction and working of thrust block).
694. New ETO joins ship what certificates he must have. (STCW Approved Electrical training course for ETO).