

MOTOR ORAL QUESTIONS

1. Handing over a watch
2. Walk around, what to look at, typical pressures and temperatures,
3. FW cooler 3 way valve positioning and manual operation,
4. Oily water Separators, OCM, 3 way valve, oil probe for de-sludge,
5. Oil Record book, what to record, what types of transfers to list.
6. MARPOL annex 1
7. Blowing down a gauge glass,
8. Blowing down a boiler, valve sequence,
9. Boiler water treatment, testing and levels,
10. High temp on all units, 1 unit, (4 stroke) reasons,
11. Fuel pump operation, (jerk type)
12. Exhaust valves, reasons for not seating correctly, Tappets,
13. Charge air high temperature causes,
14. Scavenge fires (increase cylinder lubrication)
15. Fixed fire fighting mediums- high fog, sprinklers, CO2
16. Fire pumps, pressure, emergency power,
17. How to minimise fire, housekeeping etc,
18. Finding a fire, raise alarm, restriction, close ventilation, etc.
19. Air compressor maintenance, Risk Assessment, P1W, Isolation, Piston ring placement
20. COSWP
21. M Notices
22. Bilge Injection
23. Bilge pumping, pump type, No pressure reading, open valves, leaks etc.
24. Paralleling, synchroscope, 3 lights, breaker not opening.
25. The vessel has been in port and the main engine has been shut down for a considerable length of time.

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26. Describe the procedure for preparing the main engine for sea.
27. What safety devices are fitted?
28. What would you do in the event of the oil mist detector going into alarm?
29. How can you tell if a cylinder air start valve is leaking?
30. What are the main causes of scavenge fires and what action would you take in the event of one occurring?
31. What other checks are carried out prior to sailing?
32. Describe the procedure for testing the steering gear.
33. Describe the procedure for starting up a generator, putting it on the board and taking one off the board.
34. What are the likely causes for water leaking into the lubricating oil?
35. How can you tell from looking at the oil if this has occurred?
36. What safety devices do you expect to find on an electrical switchboard?
37. What is the procedure for blowing down a boiler?
38. If two valves are fitted adjacent to the boiler which one do you open fully and why?
39. Blow down this boiler gauge glass.
40. If the water cock was blocked what would happen to the water level in the gauge glass?
41. What safety devices are fitted to a boiler?
42. Why do boilers pre-purge prior to ignition?
43. What type of pump is used to pump bilges and why?
44. What is the permitted amount of oil that can be discharged at sea?
45. Oil record book
46. If the vacuum gauge on a centrifugal bilge pump shows a very high vacuum, what could be causing this?
47. What would be causing a very low vacuum?
48. What types of extinguisher would you expect to find in an engine room?
49. What extinguisher would you use on an electrical fire?
50. How does a CO₂ extinguisher work?

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51. What gasses are used for fixed installations?
52. What precautions would you take before entering a CO₂ room?
53. What publications which are produced by the MCA are available to you and give safety information?
54. What do know about permit to work systems?
55. How would you know whether a piece of lifting gear is safe to use?
56. Describe the procedure of taking over a watch in a manned engine room.
57. Typical temperatures and pressures that you would check on the machinery rounds.
58. What would you check on a walk round of the engine room
59. Constructional differences between a 2 stroke and 4 stroke
60. Describe the procedure for warming through the ME from cold
61. Describe the pre departure steering gear checks/SOLAS regs.
62. What could cause a scavenge fire and what action would you take
63. What is the purpose of the indicator cocks
64. How would you detect a Leaking air start valve and what action should be taken
65. Gauge glass blow down
66. Why test Boiler Water - What tests are carried out and why -expected Levels of contamination
67. What Boiler safety devices are fitted
68. Describe the procedure for paralleling 2 generators
69. How to test Reverse Power Trips
70. What is ISM - how does it affect you onboard and how is it implemented
71. OWS regs.
72. What is recorded in the Oil Record Book
73. Procedure for preparing purifier for maintenance
74. Describe the PM system on your last ship
75. What actions to take if Fire main pressure drops when using one pump and remains the expected pressure on the others

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76. What would check for when overhauling a Centrifugal pump
77. Where are the ER emergency escapes and where do they lead, what would you check for on regular inspections.
78. Isolation procedures for a major ER fire
79. How can Free Surface Effects be minimised as an engineer
80. What ways are there to start up the Emergency Generator
81. Taking a ship from a dormant state on shore power to being 'ready for sea'.
82. Types of diesel engines (trunk, slow speed etc) and safety devices fitted. Pre-start checks.
83. Scavenge fires, causes, symptoms and immediate action to be taken.
84. Crankcase explosions, methods of detection, symptoms, immediate action to be taken.
85. Main engine room flooding (eg sea-box blow out) actions to be taken, methods of water removal.
86. Boilers, scaling, safety features and operation. Gauge glass drill. Testing of water and maintaining within prescribed limits.
87. Bilge pumping, problem scenarios, use of separator and the Oil Record Book.
88. Air compressors, operation and safety devices.
89. Fuel system, operation and bunkering procedures. Precautions while bunkering.
90. Fuel oil purifiers, operation and safety features.
91. Paralleling of generators. Switchboard protection.
92. Electric shock scenario. Treatment, immediate action and subsequent action.
93. Pollution. Oil , garbage and sewage disposal regs.
94. Fire fighting equipment on board. Muster stations and general scenarios.
95. BA equipment on board and it's use.
96. Permit to Work procedures. Tagging out and safe isolation of equipment.
97. Legislation questions on MSN, MGN, MIN, SI's, IMO, SOLAS, MARPOL, MCA.

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98. What kind of ships have you been on and what were the propulsion methods?
99. Describe taking over an engine room watch.
100. Describe what checks you would make to the main engine on your walk around.
101. Describe how you would fill in the engine room log including what is contained.
102. What are the safety trips on your main engine and what the parameters were?
103. What kind of oil mist detector did you have on your last ship and how did it work?
104. Describe how the oil mist is created in the crankcase and how a crankcase explosion works.
105. What do you do in the event of an oil mist detector alarm?
106. Tell me how a start air explosion can occur, the safety devices to prevent this and how you would tell if the valve is leaking.
107. You have been in port for three days and all machinery has been shut down, describe how you would prepare the engine for sailing including starting the main engine.
108. What are the steering gear regulations and describe the checks you would make to the steering gear prior to sailing.
109. How does the signal from the bridge get converted to the signal at the pump and how does the feedback system work?
110. Describe to me your bilge system.
111. Tell me the regulations regarding the pumping of bilges.
112. What kind of pump did you have between your oily bilge tank and your oily water separator?
113. Tell me why a centrifugal pump is not used.
114. Describe to me the types of portable fire extinguishers you had onboard your vessel and why those types are in those areas.
115. What is the difference between how CO₂ and Dry Powder extinguish a fire.
116. You come across a CO₂ extinguisher in the engine room - How can you tell if it is full?

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117. What is the isolation valve for in the fire main system and where is it located?
118. What safety trips can be found in an electric motor starter box?
119. What could be the problem if you have a high current drawn from a motor?
120. What is single phasing?
121. Describe your actions if you need to send a motor ashore including all isolations and safety precautions
122. In what other situations would you need to perform a permit to work?
123. What is an enclosed space?
124. Go through the procedure for entering an enclosed space.
125. What is the ISM code? – Does your ship have a SMS? What is this?
126. Explain how you would take over an engineering watch?
127. Explain how you would verify the water level in a boiler?
128. What are the trips associated with a boiler?
129. Explain the fuel system on your last ship from bunker tanks to the engine?
130. Explain how you would change an engine over from HFO to Diesel Oil manually?
131. What would you have to do to ensure changing over did not cause problems
132. Within the fuel system i.e. pumps gassing up?
133. You have bunkered fuel in different ports, following change over to your new supply of fuel the purifier is constantly falling over, what might the problem be?
134. What temperature would you expect the fuel oil to be in the purifier?
135. What temperature would you expect your fuel to be for injection?
136. Explain the maintenance procedure incorporated in overhauling a fuel oil purifier? i.e. PTW, isolations (electrical, fuel, water, steam), chemicals used,
137. Team briefing, PPE.
138. Explain how you would warm through an engine from cold?

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139. State what pressures and temperatures you would expect to find on an engine you are familiar with?
140. What are the risks involved with start air valves sticking open?
141. How would you know a start air valve had stuck open?
142. Explain the construction differences between two stroke and four stroke engines?
143. engines?
144. Explain how a scavenge fire develops?
145. How would you suspect or know that a scavenge fire had developed?
146. What response would you undertake if you suspected a scavenge fire?
147. What could be the reasons for a high exhaust temperature in one unit?
148. Explain the procedure for paralleling generators?
149. How would you take a generator off the board?
150. You reduce the load on the outgoing generator so the breaker can be opened. The breaker fails to open. What are the dangers involved with this and how would you respond?
151. What type of electrical system would you expect to find earth fault indication lamps? (insulated earth)
152. How can you tell an earth fault is present using earth fault lamps?
153. What are the regulations regarding working hours for watch keepers?
154. What are M Notices and explain there purpose?
155. What documentation in is available to all shipboard personnel regarding guidance on management, work activities and health and safety?
156. Explain how you would pump bilges?
157. What are the regulations regarding pumping bilges?
158. How to pump bilges and problems that occur in the system. Duties of a watch keeper, what to look for when doing the rounds. How to hand over a watch.
159. ISM manual, what it is, where it is kept.
160. What is fitted to the Boiler for safety?
161. Blowing down a gauge glass.
162. What you would do if there was low level in a gauge glass, and what you would do/expect if the water in the gauge glass was still.

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163. How to operate a centrifugal pump Starting generators, paralleling generators. Steering gear checks and regs. Pre sailing checks.
164. List the switch board protection devices.
165. What would you expect if the volts dropped off one of the generators?
166. How would you trace an earth fault.
167. What to do in the event of scavenge fires and oil mist detectors. Entering enclosed space and how to vent it correctly.
168. Prepare a tank for inspection because the inspectors are coming to check it in a couple of hours, (I told him it couldn't be done because you need to vent it for 24 hours).
169. What is the problem with entering a tank if it only holds water. what to check on BA sets.
170. Typical causes of fires. How to prevent a fire from occurring. What to do if you find a fire.
171. Typical pressures and temps around the engine room. What is fitted to the exhaust to help prevent against fires.
172. What fire fighting equipment is fitted and what should you do before the co2 is released.
173. Preparing the main engines and starting the main engines.
174. What would you expect if there was a lot of water coming out of the exhaust cock when blown over on air.
175. How much water you would expect to come out of the air receiver when draining. Procedures for starting an air compressor.
176. The problem with carry over of oil on an air compressor.
177. How do you know if you have an earth fault and how would you trace it.

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11/5/09

1. What information would you like to be told when being handed over the watch by the off going engineer?
2. When wouldn't you hand over the watch to the relieving officer?
3. What do you do in the event of an oil mist detector alarm?
4. How would you recognise you have a scavenge fire, and what would you do?
5. What are the expected chloride levels in the boiler?
6. What would cause a sudden rise in the boiler chloride levels?
7. What checks would you make before departure?
8. What are the steering checks you would make?
9. What are the times for the rudder movement test, and where can they be found?
10. Take me through starting a boiler from cold, the boiler has already been filled to the required level for starting and steam from a second boiler is available
11. What is the easing gear for on the boiler safety valve?
12. What would you check when doing rounds on the main engine?
13. What would the cause be for high exhaust temperatures in a single unit? (looking for damaged exhaust valve)
14. What would the reason for erratic exhaust temperatures on your main engine? (looking for water in the fuel, draining settling tanks is the solution)
15. Alarms and trips on main engine?
16. Paralleling a generator
17. Safety trips on the main switchboard?
18. What are preferential trips?
19. What must you carry out before working on the main switchboard? (h.v. permit to work, prove busbars are dead, earthing of busbars)
20. Pumping bilge to bilge holding tank but have no suction, what are causes and how could you find out?
21. What is the ISM code?

He also asked me a question along the lines that the boiler has been shut down due to low level, but there is still a level in the boiler which isn't showing on the gauge glass, the second engineer tells you to look inside the boiler by taking off the bottom boiler door, what do you do?

I was a bit confused by this question and told him I didn't understand what he meant. He said that I should refuse in polite terms, as when carrying out boiler inspections the top boiler door should always be opened first to check if there is still a level in the boiler. He said not to worry though as this is a seconds question, and it was a bit unfair of him to ask it.