1. Take over a second-hand vessel. All crew including Master joined together at the time of change in flag surveys. After completion of Change in Flag surveys, the Superintendent is forcing you to sail out as next charter is waiting. What minimum checks will you carry out prior sailing out the vessel?

2. You are approaching a port and Oily Water Separator is found not working? Spares are required which has a delivery time of 1 month. Action to prevent detention and get exemption from Flag?

3. You have joined a ship as Chief Engineer. What checks you will carry out to assess effectiveness of implemented Safety Management System on board?

4. Who are Young Seafarers under MLC 2006 and What is your responsibility as CE if any of these Young Seafarers are working in Engine Room?

5. You joined a ship as Chief Engineer and found that one of the three Auxiliary Engine is non-operational. The out-going Chief Engineer informs you that spares are ordered and it will take another one month to receive the spares. Will you take over as Chief Engineer and if yes, under what conditions?

6. Your Company decided to re-cycle the vessel on which you are the Chief Engineer? How shall you prepare the ship for re-cycling under Hong-Kong Convention?

7. A newly take over vessel goes for MLC 2006 Certification? What is the type of inspection and requirements for this type of inspection?

8. A Company intends to extend renewal survey by 3 months. What are the requirements to get this extension from the Flag?

9. Are there any ISM related Clear grounds during PSC inspections? If no, how it is determined to give ISM related deficiencies?

10. Engine can be de-rated to a low power with rated RPM or to a lower RPM with rated power or to a lower power and lower RPM. Under what conditions will you prefer each of the options?

11. Your vessel is on a short run and you are frequently unable to adhere to Rest hour requirements. You call up Superintendent, who ask you to manage as the vessel will out of the short run within one month. What will you do?
12. Your vessel is going to leave a port for next charter where you have to reach in limited time. The vessel has only one-day fuel and the fuel available in this port is with sulphur content more than the global limit allowed by MARPOL. On the way there is no area where MARPOL compliant fuel can be bunkered. What will you do?

13. Your vessel is going to a port in a region where number of Indian Flag vessels have been detained in last few months. How will you prepare for the visit to a port in such a region?

14. During your tenure as CE on a vessel, you noted that there is a sudden increase in near misses in last two months. What will you do?

15. You have joined a newly constructed ship as CE. The Company wants to implement complete Condition Monitoring system of maintenance on this vessel. What is your view point?

16. In accordance with UNCLOS a flag should exercise its jurisdiction and control in administrative, social and technical matters over ships flying its flag. How this jurisdiction is exercised by different Flags?

17. Various P&I clubs treat accidents and casualties as an iceberg. According to various reports for every one death on a ship and 30 lost time injuries there are about 3000 near misses and 30,000 unsafe acts. Taking this statistics into consideration, how on your ship you can prevent casualties and lost time injuries?

18. India is not still a signatory to Ballast Water Convention. Can foreign ships visiting India be inspected under PSC for Ballast Water Convention?

19. What is a Master’s review of Safety Management System? What statistics are used to make it effective?

20. An Indian Flag vessel managed by a Company (with excellent PSC records of all the vessels managed by this Company in every port) is inspected each time she visits Paris MOU region ports. What can be the reason?

Prepared by: Vikrant Rai
1. What is “Free surface effect” and its effect on stability?
2. Breast hook/panting stringer/solid floor.
3. Additional safety measures for Bulk Carrier.
4. Purpose of Conditions of assignment.
5. Action to be taken when there is a fire in accommodation.
6. Information required in Bunker Delivery Note.
8. How to carry out risk assessment?
9. Oil Record Book -entries to be made.
10. Which entity decides Ship Security Level and action to be taken when Security Level is raised to 3.
11. How will you identify when a ship is as stiff or a tender ship?
13. Why Mechanical foam in preferred over chemical foam for fire fighting on ships?
14. How will you put Oily Water Separator into use?
15. What is a major non-conformity?
16. Risk assessment objective.
18. SMS contents.
19. MLC-2006-Objective
20. What is permeability & How to calculate.
21. GRT-Space exempted in calculation.
22. Dry docking.
23. Difference between Intact stability and damaged stability.
24. What is audit of what is survey?
25. Rapson slide purpose, bitter and arrangement.
27. Periodical maintenance on Fixed Fire Fighting CO2 system.
28. Size of standard discharge connection.
29. Action during ER flooding?
30. Purpose of inclining experiment?
31. Diesel-Oil .DB tank vent arrangement.
32. Additional firefighting equipment for containership
33. Isolation V/v purpose on fire main
34. Safety fittings on LNG cargo tank.
35. TPC, Factors affecting TPC.
36. Freeing ports, location & purpose.
37. Elements of ISM Code.
38. E/R Bilge pumping out criteria.
39. Types of Sewage Treatment Plants?
40. Checks before flooding Engine Room with CO2 during fire?
41. Flammability diagram, purpose & how to use?
42. Safety fitting on IGS.
43. TPC, factors affecting TPC.
44. ORB entry for bunkering.
45. ISM Certifications.
46. EEDI/EEOI
47. DWT, GRT, NRT.
48. Cover correction fire detection space.
49. Testing smoke detector.
50. Safety fittings in cargo P/P Room.

Function-4-B

1. 1st Stage Safety valve for Main Air Compressor is lifting. What is the reason?
2. M/E-All unit exhaust temperatures using.
3. Purpose of lifting Boiler safety valves with easing gear?
4. Ways to measure AE Fuel injection timing?
5. Mean effective pressure?
6. Why fatigue strength is less than UTS.
7. What is creep?
8. Contraction of boiler foundation sketch.
10. What is speed droop in governor?
11. A/C compressor capacity control.
12. Safeties on boiler gauge glass.
13. Air in steering system, how to purge out air?
14. VIT/ super VIT action.
15. Performance curve/cards for Main Engine? How to determine late injection?
16. Performance of Main Engine Air Cooler?
17. How to advance the fuel injection timings?
18. Liner – Maximum wear position.
19. Selection of gravity disc in purifier.
20. How to ensure optimum efficient performance from a purifier?
21. Action to be when taken when it is found that a boiler tube is leaking?
22. Safeties on ER Crane?
23. MAN- B &W latest development.
24. Aux Engine is overloaded due to certain reasons. What checks to be carried on crack pine & bearing?
26. Purifier over flowering. Reasons?
27. F.W.G giving salinity alarm. Reasons?
28. Calculation of Main engine SFOC?
29. Aux engine one-unit exhaust temperature found low.
30. Boiler reasons for hard scale for on heating surface.
31. Reefer plant how air can enter into system.
32. Action when Aux Engine L.O analysis shows poor results.
33. Charging of Ref Compressor with oil.
34. Ref Compressor tripping frequently on HP Cut out. Reasons.

Function-5

2. Safeties on alternators.
3. Reverse trip operation.
4. Safety installed on Main Switch Board.
5. Black out test.
6. Kirchhoff current law?
7. Shore correction requirements and checks?
8. Preferential trip?
9. Pressure switch?
10. Motor not starting?
11. Fail safe system.
12. Low insulation alarm.


15. Insulation testing of motor.


17. What is a star/delta starter?

18. Workings principle synchronous motor

19. Alternator – Synch scope out of order.

20. Power factor- Value of power factor.


22. Brushless alternator working principle.

23. How to test a diode and a capacitor?

24. Types of starters for indication motor.

25. Maintenance on alternator.

26. Precautions while connecting shore power.

27. Type of circuit breakers.

28. Excitation system of the alternator.

29. 2 generators are running in parallel. Both taking different powers.

   Reason?

30. Types of buttons and low the changing of the same of lone.

31. What is open circuit/Short circuit/earth fault?

Function-6

1. How will you carry out accumulation of pressure test on boiler?

2. Name all NDT methods and explain Magnetic Particle test.

3. How will you fit a shrunk fit bearing on a shaft?

4. Defects in a certificate pump
5. Defect in holding down bolts
6. How do you pressure test bunker line.
7. How do you conduct L.O tests on-board?
8. Reefer plank-suspect of air ingress confirm removed.
9. How do you get correct size of gravity disc of HFO Purifier?
10. D/E piston over-haul-Checks on piston running groove.
12. Interpretation of Crank-Shaft deflections?
13. How to take propeller drop?
14. Checks for High fuel oil consumption
15. How you order a S.W pipe for E/R.
17. How do you pressure test D.B Ballast tank.
18. Liner for M.E to be gauged-procedure.
20. Boiler water test and recommended values.
21. How do you set size of gravity disc?
22. Engine does not start on air. Checks?
23. Purpose of light spring diagram.
24. Running A/E without the T/C.
25. What is critical speed.
26. Mountings fitted on air bottle.
27. A/E cycle Blow past.
28. Reasons for fluctuating Main Engine Jacket Cooling Water Pressure?
29. Spot test of A/E L.O.
30. During maneuvering bursting disc on one of the air starting line bursts? Action to be taken.
31. After heavy weather sailing, checks to carry out.

32. Thermostatic valve is iced on the outside. Give reasons and course of action.

33. Measure the wear of the chain of Main Engine Chain drive.

34. How to carry out horizontal pump-motor alignment?

35. How to measure ovality of crankpin and connecting rod?

36. How to measure AE bottom end bearing clearance?

MEO Class II Oral Questions collated by Vikrant Rai