OH & S

What rules cover structural integrity of engine room in a fire? (Solas, A class and B Class fire divisions)
Sketch a portable CO2 extinguisher; what are the safety features?
Sketch Fire line.

What are the most difficult parts of the engine to adequately lubricate?
Crosshead lubrication. He requires drawings. Drawings should be clear. Sometimes he asked in different angles to explain
Main Engine crankcase inspection/Areas to concern/Crosshead & guides places could damages, How to find those places (Clearance taking methods with drawings). Actions to be taken. Asked more about guide shoes, Guides construction
Thrust bearing (Drawing)/Clearance Checking
Starting Air system safety features
Scavenge space fire, indications, causes, actions to take. How can it spread into a crankcase explosion?
Safety devices fitted to the main engine?
Explain the purpose of the auto valve in the start air system
Bursting disc fails during manoeuvring, what are your actions?
Scavenge space fire, what are your actions?
Fire escalates, what are your actions?
Checks after a scavenge space fire?

**Explain running direction interlock**
Requirements for crank case explosion relief valves?
What is a secondary explosion and how does it occur?
What are the causes for crank case explosions

STEERING GEAR Electrical requirements for SG relating to Solas & safeties
Junior Engineer informs SG has a low level alarm, what is your action?
How to isolate leak, how do you know which valve to close?
Steering gear leakage, what are your actions?
How to fill up the system after repairs have been made to leaking system?
Emergency steering procedure?

How to parallel two generators?
How to check whether the generators are in phase?
What will happen if you close the ACB when only the center lamp is illuminated?
What is reverse power, how to test? Reverse power trip sketch
What are other MSB protections?
What is the difference between synchroscope and 3 lamps method?
Phasor diagram to show when generators are in phase?
Draw the MSB layout and interlocks
Safety devices fitted to the MSB
How do you test reverse power trip and what is its set point for diesel engines?
How do you manually synchronise a generator?
What is the importance of a synchroscope?
How do you synchronise a generator by lamps?
Phasor diagram for lamps synchronising?
Junior engineer reports a generator has tripped on reverse power, prime mover is ok, how do you fault find? (Mechanical side & AVR is ok. He requires other than these faults)
One side of main switchboard damaged/ What are the inspections to be done? What checks? How to continue power? How does the MSB connect to the ESB, what are the interlocks? How do you connect shore power to the vessel?

Draw and explain earth fault testing circuit
Lamp testing principle with drawings

How to set a boiler safety valve?
Safety valve is chattering, what are your actions?
Boiler water treatment, explanation and typical levels
Boiler gauge glass blow down procedure
Sketch and describe a gauge glass – Safety features of Gauge glass.
Sketch a boiler you have worked on
Carry out a boiler survey
How do you know the boiler is empty?
How do you safely remove a manhole cover?
Sketch a manhole
Accumulation test, why is it done?
Boiler draining procedure with sketch
Why do you open the vent valve? When should open?
Explain metal fire in boilers
Contamination with oil- Actions to be taken, what are the dangers?
All safety devices fitted to the boiler
Boiler survey
What are the reasons for safety valve chattering, how does the valve pop open?
Boiler survey, risk assessments, work permits?

Where do you find your job description on joining?
What is an SMS?
What certificates are issued under Annex 6?
What are the machines related to annex 6? (Asked more about the limits of Sox & Nox)

ORB entry for machinery space operation

Familiarisation process when joining a new vessel
What are your duties as 2nd Engineer?
Explain about NOx emissions
How do you find that on your vessel? (NOx technical file for each engine)
On board NOx verification process
How often is this done?
Work hours and hours of rest for crew, how do you manage it to prevent fatigue?

How do you make an enclosed space entry?
Can you issue a permit because you have a Class 2 certificate?
Enclosed space entry according to Australian Standard
What are all the hazards involving an enclosed space?
What toxic and flammable gases might be found in an enclosed space?
How do you know whether gas analyser is showing correct values?
How to recognize competent person?
Fire main construction in engine room.
What are the advantages of using emergency pumps to fight engine room fire? Why not
Engine room pumps?
How can the fire main fail in an engine room fire?
How to release CO2 in engine room? If remote activation fails, what is your action?
If booster valve also fails, what is your action?
Engine room fire, what is the importance of the engine room isolating valve?
Draw a CO2 main cylinder
Solas requirements for a CO2 bottle
What is the importance of the dip tube in a CO2 bottle
Explain about the CO2 relief valve
What is its set point?

How do you connect the international shore connection for fire main, draw and explain

Dockyard Procedure, Preparation/ Repairs to be done
Anchor chain fixing/ Inspection/ Measurements

Different between Keyless propeller & key propeller/ Advantages/ Removing / Drawings
Shafting/ Shaft Removing/ Clearances/With drawings/ Poker gauge place/ Sealing

Shaft couplings/ Construction of Studs/ Bolts with drawings

Cooling water treatment
Expansion tank over flow- Reason/ actions
How to clarify cooling water contamination?