

# 50 Questions and Answers For Marine Engineers Issue 6



## Auxiliary Equipment

**1. It is given that engine room bilge pump has suction manifold on which 3 valves are located. One valve for the 3 engine room bilge wells suction, another one for Bilge tank suction and the third one is for sea water suction. It is found that the Bilge pump is unable to take suction from any of the bilge wells, but is able to take suction efficiently from Bilge tank. What is the most probable cause?**

- A. Pump suction filter cover gasket leaking
- B. Suction filter cover gasket of one of the Bilge wells is leaking
- C. Bilge well suction pipeline leaking between individual bilge well valves and suction manifold valve
- D. Bilge pump suction pipeline leaking between the manifold and the pump

Answer-C

**2. Which factor must be considered when determining the order of loading of dissimilar products through the same piping system aboard a tanker?**

- A. Contamination of the cargo
- B. Flash points
- C. Reid vapor pressures
- D. Specific gravities

Answer-Not Sure

**3. Leaking valves in a low pressure, reciprocating, air compressor can result from \_\_\_\_\_**

- A. excessive compressor discharge pressure
- B. operating the compressor at excessive speed
- C. uneven piston stroke in the compressor
- D. abrasion by dust and dirt

Tricky Question Answer will be anyone of them But You Have to Choose the Most Appropriate

**4. When the control lever actuates in steering gear.**

- A. run two motors and the control can be actuated
- B. by manual operation
- C. run one motor and control can be achieved

Answer-B

**5. Overall length of pairs of rams is reduced in which of the following tiller designs of a steering gear arrangement?**

- A. Forked tiller design
- B. Round arm tiller design
- C. Conventional tiller design
- D. None of the above

Answer-A

**6. Inert Gas System on board tankers is used during which of the following operations\_\_\_\_\_**

- A. Inerting of empty tanks
- B. Inerting during crude oil washing
- C. Purging before gas freeing
- D. All of the above

Answer-D

**7. The seating material for perfectly sealing type Ball valves is usually made up of**

- A. Rubber
- B. PTFE or Nylon
- C. Rubber reinforced with steel wire
- D. Stainless steel

Answer-B

**8. F.O. transfer pump was working efficiently, but it stopped taking suction suddenly. There is a sounding of 6.0 m in the F.O. deep tank. The suction pressure gauge was renewed recently and is showing a positive pressure when pump is running, but Pump is not transferring any F.O. What is the most probable cause?**

- A. Pump is damaged and needs overhaul
- B. Suction filter cover gasket might leaking
- C. Pump relief valve might be leaking
- D. The pump suction pipeline is blocked

Answer-C (Because relief valve releases the excess pressure not full recirculation ....but sme amt will be transferred ....this was happened in my ship in LO PUMP)

**9. When removing the cap from a sounding tube on a MODU, the sound of air escaping indicates \_\_\_\_\_.**

- A. the tank is full
- B. the tank may be partially flooded
- C. the tank level has dropped
- D. the tank is completely flooded

Answer-B

**10. Vacuum evaporators onboard are tested for max vacuum by**

- A. pr. testing of evaporator shell
- B. carry out leak test for distillate pp at sea
- C. carry out leak test for vacuum pp and fittings
- D. leak test evaporator shell

Answer-A and D

**11. When both the steering motors are in use?**

- 1) 12 nautical miles near port
- 2) pilot on-board
- 3) navigational prblm
- 4) all the above

Answer-4

**12. Subsequent to a oil spill in Engine Room and ingress of oil in the bilge wells ,the best course of action is to \_\_\_\_\_**

- A. Use oil spill dispersant chemical in the bilge wells
- B. Transfer the oily mixture and let it settle in the bilge holding tank/bilge separator tank
- C. Transfer the oily mixture using a portable pneumatic pump to a waste oil tank and then physically demuck and clean the bilge wells using environment friendly cleaner
- D. Dilute the bilge wells by flooding with water and then use the general service pump to pump out the bilges

Answer-C

**13. The muffling of exhaust gas noise in 4 stroke auxiliary engines is achieved by**

- A. Allowing the gas to expand.
- B. Change the direction of their flow.
- C. Cool the gas with injected water.
- D. Cool the gas with scavenger air.

Answer-A and B

**14. Electric and electro-hydraulic steering gear motors are required by Coast Guard Regulations (46 CFR) to be \_\_\_\_\_.**

- A. protected by a circuit breaker set at 125% and a thermal overload device
- B. provided with a running motor overcurrent protection device
- C. served by a single two conductor cable
- D. served by two feeder circuits

Answer-D (Because Steering gear motor do not have any trip for safety reason)

MCQ

**15. Two compressors should not be run in parallel because**

- A. It is not efficient to run two compressors
- B. It will give over capacity in the system
- C. There is possibility of losing oil from the compressors
- D. A and B

Answer-C

Important Question for MMD

**16. You have valves of same bore diameter but of different types. Which of the following is arranged in the decreasing order closing torque required for giving a perfect seal?**

- A. Globe valve, Ball valve, Butterfly valve (rubber seat)
- B. Ball valve, Globe valve, Butterfly valve (rubber seat)
- C. Butterfly valve (rubber seat), Globe valve, Ball valve
- D. Globe valve, Butterfly valve (rubber seat), Ball Valve

Answer-C

MCQ

**17. The cylinders and intercoolers of most low pressure air compressors are cooled by\_\_.**

- A. water
- B. oil
- C. air
- D. CO2

Answer-B

**18. Most steam traps respond well to cleaning. But when a thermodynamic trap fails to operate after cleaning, the next course of action should be:**

- A. Throttle the steam outlet valve
- B. Renew the trap
- C. Lap the disc and the seat of the trap
- D. Throttle the steam inlet valve

Answer-C

**19. Over greasing which of the following is NOT a true statement?**

- A. Butterfly valves are used for modulating flow and can be throttled
- B. Globe Valves can be straight flow or angle flow type
- C. Swing check valve will provide lesser resistance than same bore diameter globe type check valve
- D. In a globe type valves, mechanical seals are used for providing sealing between the valve bonnet and the spindle

**20. Centrifugal pump will typically give you a low flow rate at a lower pressure, where a piston pump will give you more pressure and higher flow rate. Is the statement correct?**

- A. TRUE
- B. FALSE
- C. First Sentence is right. Second one is wrong
- D. I Don't know

Answer-B

**21. Why are large centrifugal pumps started with their discharge valves closed?**

- A. To ensure proper priming
- B. To limit sudden rise in discharge rate
- C. To limit motor starting current
- D. To minimize starting torque on motor shaft

Answer-C and D

**22. Which of the following problems occurring in a hydraulic system can be caused by the use of oil having a viscosity lower than specified?**

- A. Seal deterioration
- B. Fast response and hunting
- C. Increased power consumption
- D. Oil film breakdown

Answer-C

**MMD Important Question**

**23. The suction pressure gauge of the Engine room bilge pump is broken and you don't have a spare. Chief Engineer has asked you to troubleshoot the problem with Bilge pump not taking suction from Fwd (P) bilge well. You try taking suction from Fwd (S) & Aft Bilge well and find that pump is taking good suction. Thereafter you try suction from Fwd. (P) bilge well for sometime after priming with Sea Water but there is no change in level. You inspect the suction filter of the pump and find that it is very difficult to remove the same, you had to apply too much of force to lift the filter cover while normally it comes out easily. What does it indicate?**

- A. It does not indicate anything, sometimes the filter covers are difficult to remove.
- B. It indicates that the suction valve of the Fwd. Bilge Pump is leaking
- C. It indicates that the suction filter of the Fwd. (P) bilge well is clogged completely
- D. Pump suction filter might be clogged

Answer-C

**24. Sludge pump suction pressure is going full vacuum when you start the pump taking water of double bottom tank suction you have checked the suction filter n found in clean condition. Taking suction from fuel oil sludge tank does not happen. Causes of the problem.**

- A. Pump is not working efficiently n reqd. overhauling
- B. FO sludge tank suction valve is leaking
- C. W.O. tank D.B. tank suction pipeline has a blockage.
- D. Can not say what is the problem but definitely the pump needs to be opened up for overhaul

Answer-B

**25. A fluctuating and unsteady vacuum in an evaporator may be caused by \_\_\_\_\_.**

- A. wet steam entering the air ejector nozzle
- B. pinhole leaks in the evaporator tube nests
- C. rapid scaling on the evaporator tube nests
- D. high water levels in the last effect

Answer-A

**26. Which of the main shaft segments listed below, that are connected with the main engine, are coupled to the tail shaft flange?**

- A. Thrust shaft
- B. Stern-tube shaft
- C. Intermediate shaft
- D. Crank shaft

Answer-C

**27. Piping cross-sections over 30 cm in diameter are sized by the \_\_\_\_\_.**

- A. inside diameter
- B. wall thickness
- C. outside diameter
- D. threaded diameter

Answer-C

#### MMD Important Question

**28. You have overhauled a centrifugal pump and while assembling forgot to install the o-ring between the sleeve (provided in way of gland packing) and the shaft. What impact does this have? (single answer)**

- A. It will not affect the pump in any way
- B. It will cause leakage of fluid(air/water) in between the shaft and the sleeve and will affect the pump performance
- C. It will not affect the pump performance n any way but will corrode the shaft between the o-ring and shaft
- D. It will cause dynamic imbalance of the shaft

Answer-B

**29. Correct method of greasing a centrifugal pump bearing is:**

- A. To pump the grease until you feel high back pressure on the Grease pump
- B. To pump the grease for 3-4 pumping strokes of Grease pump for each bearing
- C. To pump the grease when the pump is stopped and drain any old grease at the same time by opening the drain plug, giving only 3-4 pumping strokes on Grease pump for each bearing. the drain plug should then be replaced
- D. To pump the grease when the pump is running and drain any old grease at the same time by opening the drain plug, until all the old grease is removed and new grease starts coming out of the drain, repeating same for each bearing. the drain plug should then be replaced

Answer-D

**30. If 3 Centrifugal pumps are running in parallel and the backpressure is substantially increased, what effect will be observed on the pumps in use.**

- A. Flow rate will reduce.
- B. Increase in the pump casing temperature.
- C. Safety alarms and trips (high casing Temperature) will activate, if no corrective action taken
- D. All of the above.

Answer-D

**31. When specified Discharge pressure is not achieved, The Possible cause could be?**

- A. Discharge pressure too high
- B. Pump speed too low
- C. Casing ring is worn out
- D. Cavitations exists
- E. All of the above

Answer-B, C and D

**32. Pump Start But Motor gets overloaded or Trip on overload.**

- A. Alignment is wrong
- B. Gland packing too tight
- C. Worn out / Damaged ball bearing
- D. Cavitations exists
- E. All of the above

Answer-A,B and C

**33. Length of the rams is decreased in which type of steering gear?**

- A. fork type
- B. circular type
- C. conventional type
- D. none of the above

Answer-A

**34. Which of the following conditions can develop if a valve with a badly scored valve stem is repacked?**

- A. the valve disc will crack
- B. leaking and premature failure of the packing
- C. the valve disc will become eroded
- D. the valve seat will sustain damage due to fretting

Answer-B

MMD Important Question

**35. You have a two stage centrifugal pump, with both stages in parallel configuration. After dismantling the pump you realize that you forgot to the marking and both impellers are identical. Both the impellers are single entry type and the eye of both the impellers will come in opposite direction what are you going to do?**

- A. since marking was forgotten, so we need not worry, any impeller can come in any place as they are identical
- B. any impeller can come in any place, but the phase sequence of the electrical motor driving the pump may have to be reversed, if impellers have exchanged places
- C. you have to find out the right placement of the right impeller with respect to the direction of rotation or by looking at the volute casing

Answer-C

**36. If two centrifugal pumps, driven by two independent electric motors, operating at unequal speeds are discharging an inflammable liquid through a common discharge line, the higher speed pump may cause the slower pump to**

- A. stop
- B. turn backward
- C. overheat
- D. overspeed the driving end

Answer-C

**37. When there is excessive ingress of water in the engine room onboard causing dangerous levels of bilge water,**

- A. Start oily water separator and pump overboard
- B. Start General service pump and pump bilges overboard
- C. Use bilge injection valve and pump bilges overboard
- D. None of the above

Answer-B

**38. Which of the following is the material used for manufacturing tube plates of a shell and tube type heat exchanger?**

- A. Cupro-nickel
- B. Aluminum Brass
- C. Admiralty Brass
- D. Gunmetal

Answer-C

**39. Which of the following valve is liable to open or close under pressure of fluid, if not locked in position?**

- A. gate valve
- B. globe valve
- C. plug valve
- D. butterfly valve

Answer-D



**40. Which of the following conditions can develop if a valve with a badly scored valve stem is repacked?**

- A. the valve disc will crack
- B. leaking and premature failure of the packing
- C. the valve disc will become eroded
- D. the valve seat will sustain damage due to fretting

Answer-B

**41. You must have worked with mooring winch and windlass hydraulic systems. The cooling of hydraulic oil for the above system on large merchant ships is provided by:**

- A. There is no cooling arrangement as the system does not require cooling
- B. Air cooled hydraulic reservoir
- C. Water cooled plate or shell type heat exchangers
- D. Radiator and fan arrangement

Answer-C

**42. Gudgeonpin bearings are difficult to lubricate because of their oscillating motion and\_\_\_\_\_**

- A. Their free- floating design
- B. Their relatively small size
- C. The reciprocating motion of the piston
- D. Their position in the lubrication system

Answer-D

**43. Which of the following can lead to premature failure of roller bearings?**

- A. Misalignment
- B. Contamination
- C. Shrinkage
- D. Over greasing

Answer-A,B and D

**44. When may the crankcase ventilation pipes or oil drain pipes of two or more engines be connected?**

- A. Propulsion engines under 1000 shaft horsepower may share a common crankcase vent provided the oil drains remain separate
- B. In most cases it is desirable and cost effective for propulsion engines to share a common crankcase ventilation and monitoring system
- C. No interconnection may be made between the crank case ventilation pipes or oil drain pipes

Answer-C

**45. You are pumping out sludge to a shore facility using your sludge pump. You find that the discharge rate of pump is very slow and suction filter is getting clogged frequently. What is the best alternative to counteract the problem?**

- A. Remove the pump suction filter and pump out the tank
- B. Increase the tank temperature, keep an eye on the pump suction pressure and clean the filter as soon as it drops
- C. As soon as the as the shore facility tells you that they are not receiving any sludge, you stop the pump and clean the filter
- D. Fabricate a bigger mesh size suction filter and use in place of normal filter so that frequency of filter blockage is reduced and you can get a better discharge rate

Answer-B

**46. Double entry impellers have a distinct advantage over single entry impeller. What is it?**

- A. They balance out the axial thrust
- B. It gives a higher pumping efficiency
- C. It is cheaper and easier to manufacture
- D. The need of installing line bearing onto the pump shaft is eliminated

Answer-A

**MMD Important Question**

**47. You are responsible for daily transfers of engine room bilges. U follow the sequences aft -fwd (P)-fwd(s) bilge well n u have never experienced a problem but 5/E started the transfer n first transferred forward (s) bilge well n without any problem n u join him later u find that bilge pump is not taking suction fr f(p) n aft bilge well n then u have checked everything is normal. What is the cause?**

- A. 5th engineer made a mistake by 1st transferring the fwd (s) bilge well, normal sequence of operation for engine room machineries should not b disturbed.
- B. fwd (s) Bilge well suction valve is leaking
- C. Bilge pump suction filter cover gasket is leaking.
- D. Fwd (s) Bilge well suction filter cover gasket is leaking

Answer-B

**48. In case of failure of the control system of a centrifuge, the correct sequence for manually desludging a purifier would be \_\_\_\_\_**

- A. Stop feed-give sealing water-close sealing water -shut operating water-open and close desludging water quickly
- B. Stop feed- shut operating water-open and close desludging water quickly
- C. Shut operating water-stop feed- open sealing water for a short time then close-open and close desludging water quickly
- D. Shut operating water- stop feed- open and close desludging water quickly

Answer-A

**49. Centrifugal pump change over for pumping liquid of high specific gravity the discharge at the rated capacity will be**

- A. Increase
- B. Decrease
- C. Same
- D. Convert 50%

Answer-C

**50. Screw pump generally?**

- A. slow speed
- B. high
- C. medium
- D. all

Answer-A (But in some cases it is medium speed also)

*These questions mainly were taken from the website <http://www.class4exam.com>.  
Thanks for web site administration and marine engineers who shared your experience.*