

50 Questions and Answers For Marine Engineers Issue 5



Auxiliary Equipment

1. During shutting down the purifier you find that purifier always vibrates heavily for some time and then becomes normal until it finally comes to a stop. What should be done to avoid this situation?

- A. The purifier bowl should be cleaned before next startup
- B. The brake should be applied so that the critical speed does not last long
- C. Complete overhaul of the purifier should be carried out and the bearings need to be renewed
- D. The bowl should be sent for balancing

Answer-B

2. Fixed vane type emergency fire pump priming vacuum pump. After one week fire pump not taking suction. The vacuum pump is engaging, but not developing vacuum in the suction side. What will be the cause?

- A. Suction filter of the pump clogged.
- B. Suction filter cover gasket leaks.
- c) Vacuum pump not overhauled properly.
- d) Sealing water tank is empty.

Answer-Not Sure in between of A and D

3. 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

4. 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

5. Sludge pump suction pressure is going full vacuum when u start the pump taking water of double bottom tank suction u hv checked the suction filter n found in clean condition. Taking suction fr fuel oil sludge tank does not happen. Causes of the problem.

- A) Pump is not working efficiently and required overhauling
- B) Sludge tank suction valve is leaking
- C) W.O. tank D.B. tank suction pipeline has a blockage.
- D) Cannot say what is the problem but definitely the pump needs to be opened up for overhaul

Answer-C

6. In reverse osmosis type freshwater generator plants, pretreatment of the feed water is done to:

- A. Soften the feed water
- B. Sterilize the feed water
- C. To facilitate wash through of salt deposits on elements
- D. Add necessary minerals to the water

Answer-C

7. Centrifugal pumps cannot handle air and require priming. But you are aware that centrifugal which on the same principal can handle air very well. Which two properties of air are responsible because of which the centrifugal pumps cannot handle air:

- A. Fluidity only
- B. Density only
- C. Both fluidity and density
- D. Compressibility

Answer-C

8. By which of the following is the attached vacuum pump of a ballast pump is driven?

- A. Electrical motor
- B. Hydraulic motor
- C. Pump driven clutch
- D. Pneumatically driven

Answer-C

9. Why centrifugal p/p not provided with safety valve while positive displacement p/p is provided?

- A. c/f p/p shut down head is 0
- B. c/f p/p shut down head is infinity
- C. c/f p/p is so designed that it can withstand high pressure
- D. not sure

Answer-A

10. When centrifugal pump is overhauled it was found that shaft had developed grooves on it n no spare is available onboard what action can be taken

- A. Order a new spare
- B. Assemble the pump without doing anything n wait for the spare to arrive.
- C. Machine the shaft sleeve on lathe n put back the new packing.
- D. Leave the pump as it is

Answer-C

Multiple Choice Question

11. Salinity of distilled water produced from fresh water generator onboard depends on

- A. Amount of feed set in fresh water production
- B. Amount of salt water leaking from condenser if any
- C. Temperature of the sea water used
- D. Efficiency of brine ejector from the evaporator shell

Answer-A, B & D

12. Ballast pump injection filter was cleaned n the pump was lined up it was found that there was some leakage in the suction filter suction. The pump started n the leakage started. During deblasting it was found that the pump could not take suction fr one of the double bottoms. The cause could be

- A. Pump was drawing air from outside.
- B. Pump was drawing air from suction filter
- C. One of the pipelines on the suction side of the pump might be leaking
- D. The filter was not cleaned properly.

Answer-B

13. Less vacuum in centrifugal pp

- A. leaky discharge vv
- B. loss of gland packing
- C. loss of fluid frm suction take place
- D. long suction pipe

Answer-B

14. Tube in air compressors, self compensating for expansion

- A. Straight line tube
- B. U tube
- C. Coil tube
- D. Floating tube

Answer-B

15. Deep well cargo pump are used in

- A. chemical tanker
- B. product carrier
- C. LNG
- D. All

Answer-C

16. After your overhaul a centrifugal pump is not rotating what may be the possible cause:

- A. Uneven tightening of casing bolts
- B. Gasket thickness very thin
- C. More wear ring clearance
- D. Only a
- E. a and b
- F. a and c

Answer-E

17. Fixed vane type emergency fire pump priming vacuum pump. After one week fire pump not taking suction. The vacuum pump is engaging, but not developing vacuum in the suction side. What will be the cause?

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Answer-C

19. Which is true?

- A. Rotary vane steering gear generally operates at high oil pressure than RAM type
- B. $RT > RV$
- C. $RT=RV$

Answer-B

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Answer-C

23. Which of the following statements concerning antifriction bearings installed on pumps is true?

- A. The inner race should be free to turn on the shaft.
- B. The outer race should be free to turn its housing.
- C. Alignment is not a critical factor in their installation.
- D. They are usually pressed on to their shafts.

Answer-D

24. The static suction head of a pump is the

- A. distance of the suction liquid level above the center line of the pump
- B. distance the suction liquid level is below the center line of the pump
- C. force necessary to overcome frictional losses in the pump and piping.
- D. amount in inches of mercury the total suction head is below atmospheric pressure

Answer-A

25. Which of the following form of inert gas is not used on gas carrier?

- A. Inert gas from combustion type generators.
- B. Nitrogen from shipboard production system.
- C. Pure nitrogen taken from shore
- D. Inert gas generated in ship's boilers.

Answer-D (Because in gas tanker v use to have IG GENERATOR, NITROGEN GENERATOR AND ALSO TAKE NITROGEN FROM SHORE IF NITROGEN GENERATOR IS NOT FITTED ONBOARD)

26. The gland packing on centrifugal pump shaft should:

- A. Not allow any leakage under positive suction pressure
- B. Should only allow drop by drop continuous leakage under positive suction pressure
- C. Should only allow drop by drop continual leakage under positive suction pressure
- D. Should allow considerable leakage as gland packings are meant to allow considerable leakage

Answer-C

27. It is a known fact that centrifugal pumps require priming for pumping liquids , as they cannot handle air and will lose suction due to air entry . But on the other hand T/Cs use centrifugal compressors for supercharging. Which of the following do you think makes centrifugal compressors to pump air and behave differently than the centrifugal pumps?

- A. Presence of air cooler
- B. Presence of Labyrinth seal
- C. High speed of rotation, very fine internal clearances and large impeller diameters
- D. Difference in principle of operation

Answer-C

28. A partial opening of which of the following kinds of valves can lead to wire-drawing of its seat?

- A. Globe Valve
- B. Butterfly valve
- C. Gate Valve
- D. Full bore angle valve

Answer-C

29. Scale formation in a fresh water generator evaporator can lead to _____

- A. Impaired heat transfer
- B. Reduced capacity
- C. Increased shell temperature
- D. All of the above

Answer-D

30. The pumps performance depends upon

- A. Clearance between the wear ring and the impeller
- B. Clearance between the impeller and the casing
- C. Clearance between impeller and shaft
- D. Clearance between mechanical seal and shaft

Answer-B

31. Mechanical seal are not used in _____

- A. liquid line
- B. liquid with vapor line
- C. liquid with dirt line
- D. all of the above

Answer-B

32. A pump being used to deballast for peak tank which is full, it seen that suction pressure is Positive and this pressure is very low compared to rated discharge head, it indicates that

- A. Pump is not operating satisfactorily n pump capacity is too low
- B. Pump is not operating satisfactorily n Pumping capacity is higher than rated, Throttling of discharge valve is reqd.
- C. Pumping capacity is not affected by suc n discharge pressure
- D. Pump is operating normally

Answer-May be D Not Sure

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

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

Answer-D

34. Pump, when coupled to constant speed motor, the discharge quantity will not change with following pumps

- A. heleshaw
- B. steering gear swash plate type
- C. Gear pump
- D. None

Answer-C

35. If a bilge pump is able to develop vacuum, but is unable to sufficiently pump out the bilges, you would check for _____.

- A. the circuit breaker
- B. for leaks in the suction piping
- C. relief valve is not properly seated
- D. the suction strainer

Answer-4

36. 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

Multiple Choice Question

37. Amount of distilled water produced in fresh water generator onboard decreases with

- A. Increase in vacuum in the fresh water generator shell
- B. Decrease in sea water temperature
- C. Decrease in efficiency of heat exchanger
- D. Increase in sea water temperature

Answer-C and D

38. Which of the following is most suited to act as a deck air compressor?

- A. Lobe type
- B. Reciprocating type
- C. Screw type
- D. None of the above

Answer-C

39. Which of the listed conditions can lead to capitation in a centrifugal pump?

- A. Vapor pocket formed in the suction flow stream
- B. Rough casing volute surfaces
- C. Worn wearing rings
- D. Heavy fluid in the flow stream

Answer-A

40. What is a function of the wearing rings used in most centrifugal pumps?

- A. Absorb erosion of high velocity discharge stream
- B. Seal pump shaft against entry of air
- C. Isolate the discharge side from the suction side
- D. Dampen the turbulent discharge flow

Answer-C

41. Frequent cutting- in & cutting -out of a fresh water pump on a hydrophone system indicates which of the following?

- A. Nothing abnormal
- B. Excessive air charge
- C. Insufficient air charge
- D. The differential setting between cut-in and cut out is too low

Answer-D

42. 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

43. 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

Answer-D

44. What ensures correction axial location of a thin shell bearing in its housing, for correct alignment of the oil holes?

- A. The nip or crush of the bearing
- B. Location tangs or pegs
- C. Dowels or keys
- D. None of the above

Answer-A

45. Auto Clean filter are cleaned by Means of

- A. Compressed air
- B. Turning the spindle
- C. Backflushing
- D. All of the above

Answer-B

46. Which of the following statement is false.

- A. I G is required in gas carrier
- B. I G is required in cofferdam
- C. I G is not mandatory
- D. None of the above

Answer-B

48. A multistage centrifugal pump is normally used

- A. High head
- B. High discharge flow
- C. High viscous fluids
- D. Low viscous fluid

Answer-A

49. In which of the following steering modes, rudder will be locked at a particular angle until next manual order?

- A. Follow up
- B. Auto pilot
- C. Non Follow up
- D. None of the above

Answer-C

50. Coked material remaining after an oil has been exposed to high temperature, is an indication of the coke forming tendency of the oil. It can be expressed as

- A. Conradson
- B. Ramsbottom
- C. Micro Carbon Residue (MCR)
- D. Any of the above

Answer-D

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