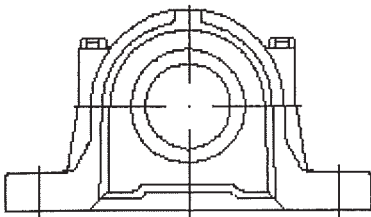


Industrial Mechanic (Millwright) IP Red Seal Practice Exam

1. Friction type bearings operate having a
 - A. rolling contact between shaft and liner
 - B. sliding contact between shaft and liner
 - C. rolling and sliding contact between shaft and liner
 - D. all items listed
2. Sleeve bearings are a type of
 - A. Anti-friction bearing
 - B. Friction bearing
 - C. Bearing housing
 - D. Babbitt bearing
3. Describe the property of embedability in a friction bearing material
 - A. easily molded to conform to irregular journal shapes
 - B. the transfer of heat to the liner shell due to crush allowance
 - C. abrasives are prevented from scoring the journals
 - D. fatigue resistance from cyclic loading
4. The most commonly used, general use liner material in friction bearings is
 - A. Babbitt
 - B. Bronze
 - C. Nickel
 - D. Laminate phenolics
5. Water and heat have the greatest effect on bearings manufactured from
 - A. Tin-Babbitt
 - B. Nylons
 - C. Laminated phenolics
 - D. Lead-Babbitt
6. Babbitt pouring is generally carried out using temperatures
 - A. at the complete melting point
 - B. 20 to 50 degrees below melting point
 - C. 20 to 120 degrees above solidification point
 - D. 150 to 200 degrees above melting point
7. Oil grooves should be created in the
 - A. base of the bearing
 - B. bearing cap
 - C. cap and base
 - D. unloaded areas
8. Two hardened rings, balls or rollers, and cages are components of a
 - A. angular contact bearing
 - B. conrad bearing
 - C. antifriction bearing
 - D. thrust bearing
9. The last two digits of ISO standard bearing code are used to indicate
 - A. the service rating
 - B. the outside diameter
 - C. the bore diameter
 - D. the width
10. A bearing having a service rating number of 3, will have
 - A. a double row, ball type design
 - B. a larger o.d. than a service weight 2 bearing
 - C. a larger internal clearance
 - D. a smaller o.d. than a service weight 2 bearing
11. Pick the angular contact bearing by the bearing code
 - A. 5208
 - B. 6208
 - C. 7208
 - D. 8208
12. The letters used to indicate internal clearances of bearings are
 - A. RS - 2RS
 - B. C - P
 - C. W - W33
 - D. K - EC

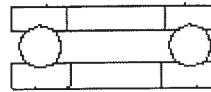
13. Bearings having a letter K at the end of the bearing code have
 A. greater width
 B. taper bore
 C. small internal clearance
 D. withdrawal sleeves
14. Before installing bearings, shafts and housings should be checked for
 A. diameter, circularity, length
 B. twists, corrosion, fillet radii
 C. none of the items listed
 D. diameter, roundness, finish
15. The withdrawal sleeve is secured in the bearing using
 A. the nut on the sleeve
 B. the lockwasher
 C. the nut on the shaft
 D. the hydraulic nut
16. For general usage, bearing housings are packed with grease to a minimum quantity of
 A. 1/4 housing
 B. 1/3 housing
 C. 2/3 housing
 D. halfway up the lowest rolling element

17. Identify the assembly

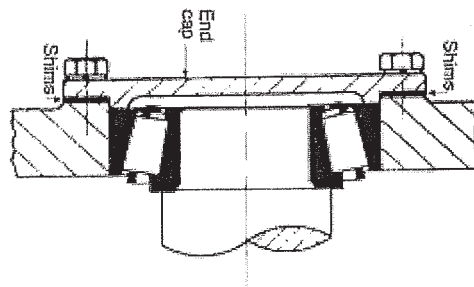


- A. split angle bearing
 B. flat joint angle bearing housing
 C. flat joint split bearing housing
 D. flat gib joint bearing housing
18. When maintaining oil levels for bearing lubrication, the oil level should be
 A. 1/3 - 1/2 of the housing volume
 B. not more than 1/2 way up the lowest rolling element
 C. not above the outer ring
 D. 1/3 below the highest rolling element

19. Choose the forces the bearing is designed to handle



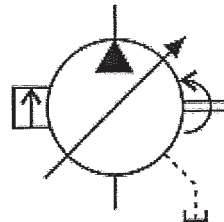
- A. radial thrust loads
 B. axial thrust loads
 C. combination loads
 D. all items listed
20. What is the first step to be completed when fitting a mandrel or journal to a newly poured babbit bearing
 A. Scraping
 B. Bluing
 C. Relieve edges
 D. Cut oil grooves
21. Over a given size of internal bore diameter, the bearing code will state the actual size in millimetres. What bearing Id would show the actual bore size
 A. 250mm
 B. 350mm
 C. 400mm
 D. 500mm
22. What will be the result of adding shims between the cover and housing



- A. bearing preload will be reduced, or axial float will be increased
 B. bearing preload will be increased, or axial float will be decreased
 C. bearing preload will be increased or axial float will be increased
 D. bearing preload will be reduced and axial float will be reduced

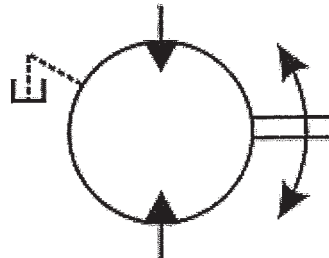
23. The best way to know a bearing has been heated to the correct installation temperature is with
- your hand
 - a pyrometer
 - a temp stick
 - plastigauge
24. A good rule of thumb for a bearing installed clearance is _____ of initial clearance
- 10%
 - 30%
 - 40%
 - 50%
25. What is the purpose of a sequence valve
- to set the order of operation in system components
 - to relieve pressure shocks from the accumulator
 - to change actuator speed
 - all items listed
26. A pressure reducing valve limits downstream _____ in a hydraulic system
- speed
 - volume
 - pressure
 - pulsations
27. Where speed and force is required to be the same, on extension and retraction strokes, a _____ cylinder is used
- ram
 - double rod
 - 2 to 1
 - intensifier
28. Pascals law states that a liquid
- is compressible
 - takes the shape of the containment vessel
 - under constant pressure will find its own level
 - transmits pressure equally throughout the container it occupies

29. Actuator speed is affected the most by changing
- rate of flow
 - relief valve pressure
 - load
 - piston seals
30. Increasing the pressure setting for a hydraulic motor results in
- more torque
 - more speed
 - less speed
 - less torque
31. Increasing the diameter of a hydraulic line
- increases the fluid velocity
 - decreases the fluid velocity
 - requires a larger pump output
 - requires a smaller pump output
32. Describe the symbol



- hydraulic pump
- uni directional, pressure compensated, variable motor
- uni-directional variable hydraulic pump
- uni-directional pressure compensated, variable hydraulic pump

33. Describe the symbol



- hydraulic pump
- uni-directional hydraulic pump
- hydraulic motor
- bi-directional hydraulic motor

Answers

1. B

2. B

3. C

4. A

5. B

6. D

7. D

8. C

9. C

10. B

11. C

12. B

13. B

14. D

15. C

16. B

17. C

18. B

19. B

20. C

21. D

22. A

23. C

24. D

25. A

26. C

27. B

28. D

29. A

30. A

31. B

32. D

33. D