

**Demo PDF file. This file includes questions: 10 from 176. Full version of file looks the same as demo, but full version includes all questions. You may download file with all questions by link on bottom of this page**

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## Q717 - General Subjects

**1. For the various sizes of tubing and wall thickness used in a hydraulic system, the inside diameter can be determined if it is remembered that the inside diameter equals the outside diameter less \_\_\_\_\_.**

- the wall thickness
- 1.5 times the wall thickness
- **2 times the wall thickness**
- 2.5 times the wall thickness

Note:

*The inside diameter is calculated by subtracting twice the wall thickness from the outside diameter, accounting for the material on both sides of the tubing.*

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**2. The letters 'NC' in '1/4-20 NC' indicates the bolt is \_\_\_\_\_.**

- **threaded with national coarse threads**
- made of non-corrosive metal
- made of nickel-cadmium metal
- not clad with any coating

Note:

*NC in '1/4-20 NC' denotes a National Coarse thread series, indicating the thread type rather than the bolt's material or coating.*

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**3. To measure the circumference of a piece of pipe, you should use a \_\_\_\_\_.**

- hook rule
- folding rule
- **flexible steel rule**
- machinist's steel rule

Note:

*A flexible steel rule is used to measure circumference because it conforms to curved surfaces, providing a direct measurement around pipes. Rigid rules are for straight lines, and hook rules measure from edges.*

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**4. Which of the instruments listed is used to measure the gauge of a piece of sheet metal?**

- Circular mil
- Gauge calibrator
- **Wire gauge**
- Inside micrometer

Note:

*A wire gauge is used to determine the standardized thickness designation, or gauge, of sheet metal. This tool features slots or holes marked with gauge numbers to identify the correct size. Other options are either measurement units, calibration tools, or instruments used for different types of measurements.*

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**5. Charring or glazing of the inner circumference of the packing rings in a centrifugal pump is caused by**

\_\_\_\_\_.

- under-tightening the packing
- packing ring rotation
- **insufficient lubrication of the packing**
- failure to seat the packing rings

Note:

*Charring or glazing of packing rings results from insufficient lubrication, which causes overheating and friction against the shaft.*

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**6. Which of the following statements is true regarding mechanical seals?**

- They may be used in lieu of conventional packing glands for any service other than salt water.
- They are not suitable for use on fuel oil transfer pumps.
- **They are normally lubricated and cooled by the fluid being pumped.**
- Once placed into service, leakage between the dynamic seal surfaces may be reduced by monthly adjustment of the spring compression.

Note:

*Mechanical seals rely on the pumped fluid for lubrication and cooling of the seal faces, a design feature that distinguishes them from other sealing methods.*

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**7. Concerning sentinel valves, what statement is true?**

- The set point of the sentinel valve is usually above the maximum allowable working pressure of the system.
- The capacity of a sentinel valve must exceed the capacity of the pressure source.
- **The sentinel valve's sole purpose is to warn personnel of excessive system pressure.**
- The set point of a sentinel valve is normally set below the normal working pressure of the system.

Note:

*Sentinel valves are warning devices only, not primary overpressure protection, and are set to alert personnel to rising pressure within a safe operating range; their capacity does not need to exceed the pressure source, and their set point is not above the maximum allowable working pressure or below normal working pressure.*

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**8. The function of seal cages, or lantern rings installed in the centrifugal pump stuffing boxes, is to**

\_\_\_\_\_.

- cool the shaft
- **distribute the sealing liquid within the stuffing box**
- lubricate the packing
- seal air from entering along the shaft

Note:

*Lantern rings distribute sealing liquid evenly around the shaft and packing within a centrifugal pump's stuffing box. This distribution is the primary function, as opposed to shaft cooling, packing lubrication, or air sealing, which are secondary effects of the sealing liquid.*

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**9. Air leakage between the shaft and stuffing box packing in a centrifugal pump is prevented by**

\_\_\_\_\_.

- lantern rings between the packing rings
- the stuffing box gland
- a compressed packing gland
- **a liquid seal**

Note:

*Air leakage is prevented by a liquid seal, which creates a hydraulic barrier around the shaft and packing, blocking air entry.*

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**10. One disadvantage of using a mechanical shaft seal instead of mechanical packing is that**

\_\_\_\_\_.

- it requires periodic disassembly and adjustment
- it is unsuitable for high temperature applications
- it is unsuitable for high-pressure applications
- **seal failure usually requires the immediate removal of the pump from service**

Note:

*A mechanical shaft seal failure typically necessitates immediate pump removal for repair, unlike packing which allows for adjustments to mitigate leakage.*

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