

25 HOT WORKING OF METALS

QUIZ 1 (20 POINTS TOTAL)

True/False (5 points)

1. One way to minimize the hazards involved with using solvents in foundries is to use less hazardous chemicals in place of more hazardous ones.
 - a. true
 - b. false
2. Preventive maintenance programs for hoists and cranes should ensure that operations are much safer than the minimum requirements of existing regulations.
 - a. true
 - b. false
3. When working in sandblast rooms, employees should be equipped with air-supplied hoods and full body protection.
 - a. true
 - b. false
4. A manually operated key-driving ram provides a greater margin of safety than a pneumatic one.
 - a. true
 - b. false
5. Drop hammers should never be operated when dies are cold.
 - a. true
 - b. false

Multiple Choice (6 points)

6. Which of the following is not true of ladles?
 - a. No ladle can hold more than 2,000 lb.
 - b. Ladles can be gear-operated, mechanically operated, or electrically operated.
 - c. Ladles should be thoroughly dried and heated before use.
 - d. Manually operated safety locks should be provided with ladles.
7. If the concentration of carbon monoxide is more than _____ around a cupola, an engineering assessment should be considered.
 - a. 150 ppm
 - b. 175 ppm
 - c. 200 ppm
 - d. 225 ppm
8. Which of the following types of molding machines requires a shield to protect against pinch points?
 - a. a straight molding machine
 - b. a semiautomatic molding machine
 - c. an automatic molding machine
 - d. all of the above

2. Slag may be dumped in pits that are humid.
 - a. true
 - b. false

3. Respiratory protection should be provided for any worker who is going to be repairing the lining of a cupola.
 - a. true
 - b. false

4. To prevent fires when grinding magnesium, workers should use vegetable oil to cool and lubricate the grinder.
 - a. true
 - b. false

5. Operators of forging hammers should wear leather gloves because they provide the best protection.
 - a. true
 - b. false

Multiple Choice (6 points)

6. To prevent injuries, reduce compressed air to less than _____ in hoses.
 - a. 20 psig
 - b. 35 psig
 - c. 30 psig
 - d. 35 psig

7. Which of the following does not apply to crucibles?
 - a. Crucibles should be stored in a warm, dry place.
 - b. The main hazard associated with crucibles is breaking.
 - c. For the first few runs, heat new crucibles very slowly.
 - d. Crucibles should be allowed to cool before they are charged.

8. When inspecting ovens, what should employees do first?
 - a. Look for the red signal lights on the flame-detecting device.
 - b. Turn off the main valve that controls the fuel supply.
 - c. Check to see if the safety cutoff valves close.
 - d. Make sure the spark plugs are clean.

9. Hammer dies are usually made of materials such as _____ that are highly resistant to heat, shock, and abrasion.
 - a. chrome
 - b. nickel
 - c. molybdenum stellite
 - d. all of the above

16. Sometimes the face of a forging die can be welded to correct a defect. What might this type of repair be hazardous?

17. What is the single most important factor when it comes to preventing injuries from forging presses?

18. What materials are used to make magnetic particle inspections?

Short Essay (2 points)

19. The main danger of sand mills is that some operators may reach inside them for samples of sand or attempt to shovel out sand while the mill is running. What are some steps that can be taken to prevent these dangers?

20. All types of forging hammers present similar hazards. What are the most frequent causes of injury associated with them?