

JONES COUNTY CAREER-TECHNICAL CENTER

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Dear Parents and Career Tech Students:

As we work towards the end of the school year the Faculty, Staff and Administration of the Jones County Career Technical Center, is providing additional enrichment activities for our students and support for our parents as we continue through these difficult times.

The following Part 2 enrichment activities will allow students to continue reviewing the instruction that they already have received this year.

Again you will find questions with answers for you to study and review. There are no assignments to be returned to school.

If the JCCTC can be of any assistance to our students and parents with the enrichment activities, please feel free to call us at 601-425-2378 between the hours of 9:00 a.m. and 1:00 p.m. or contact the instructor by email. Email addresses are located under the program name on our webpage.

Sincerely,



Rex Buckhaults
Director, JCCTC

Program Enrichment 1ST Year Welding

1. Which of these welding methods uses a flux-coated consumable welding rod?
 - a. SMAW
 - b. GTAW
 - c. FCAW
 - d. GMAW

2. In which of these processes is acetylene used?
 - a. Gas tungsten arc welding
 - b. Carbon arc cutting
 - c. Flux core arc welding
 - d. Oxyfuel cutting

3. In the oxyfuel cutting process, which of the following is used as a fuel gas?
 - a. Oxygen
 - b. Propane
 - c. Nitrogen
 - d. Argon

4. Apprenticeship programs in the United States must be registered with _____.
 - a. NCCER
 - b. the US Dept. of Labor
 - c. OSHA
 - d. Homeland Security

5. All of the following fabrics may be worn around sources of sparks or high heat except _____.
 - a. cotton
 - b. wool
 - c. polyester
 - d. leather

6. Compared to a full leather welding jacket, a welding cape is _____.
 - a. cooler
 - b. warmer
 - c. more protective
 - d. more durable

7. Which of the following is a correct statement regarding personal protective equipment?
 - a. If tennis shoes are worn while welding, spats must also be worn.
 - b. Leathers are only needed during cutting operations.
 - c. Disposable earplugs are the most common form of hearing protection used in welding.
 - d. The minimum protective shade of eye protection for SMAW is 4.

8. The risk of flash burn can be reduced by _____.
a. wearing chaps and spats
b. looking slightly to the left or right of the arc while welding
c. wearing a welding cap with the visor turned backwards
d. wearing safety glasses and a hood with a properly tinted lens
9. The recognized national standard in the United States for safety in welding is _____.
a. ASME Boiler and Pressure Vessel Code, Section II
b. American Welding Society Structural Welding Code D1.1
c. API 1104, Standard for Welding Pipelines and Related Facilities
d. ANSI Z49.1 Safety in Welding, Cutting, and Allied Processes
10. Foot and vehicle traffic in the workplace is _____.
a. not usually a factor when determining hazards
b. of particular concern for workers over eighteen
c. more hazardous at starting and quitting times
d. regulated by the authority having jurisdiction
11. In addition to protecting other workers from exposure to electric arcs, welding screens _____.
a. prevent drafts from interfering with the stability of the arc
b. reduce glare on the workpiece
c. mark a confined space
d. support workpieces for overhead welding
12. The most common welding accident is _____.
a. electrocution
b. arc burns to the eyes
c. burns on the hands and arms
d. falls from heights
13. A document issued by the site manager that allows a welder to perform operations where there is a potential risk of fire is a _____.
a. welder qualification record
b. confined space entry permit
c. welding procedure specification
d. hot work permit
14. What concentration of oxygen, in percent by volume, is considered normal and safe to work in?
a. Less than 6
b. 6 to 16
c. 19.5 to 21.5
d. More than 23.5

15. Grounding of a welding machine usually involves _____.
a. setting it on bare earth
b. plugging it in to a three-prong receptacle
c. plugging it in to a ground fault circuit interrupter
d. connecting the machine's ground terminal to a known ground source
16. Which of these metals has been linked to Parkinson's Disease?
a. Beryllium
b. Manganese
c. Copper
d. Carbon steel
17. How close should a high vacuum/low volume exhaust inlet be located to the source of welding fumes?
a. 2" to 4" (≈ 5 to 10 cm)
b. 6" to 8" (≈ 15 to 20 cm)
c. 12" to 14" (≈ 30 to 36 cm)
d. At least 12 feet (≈ 3.66 meters) away
18. An air-purifying respirator should be changed _____.
a. after every eight-hour work shift
b. after 24 hours of total use
c. when the wearer detects any taste or smell
d. three days after the filter cartridge is installed
19. The proper selection of a respirator is based on the _____.
a. user's size and level of activity
b. contaminant present and its concentration
c. amount of time it will be worn
d. wearer's personal preference
20. Which of these is the correct statement regarding SDSs/MSDSs?
a. They are only required for acids.
b. They need only be stored at the employee's corporate offices.
c. They must be available at the job site to workers.
d. Workers must be provided access to them through the Internet.

ANSWERS

1. a
2. d
3. b
4. b
5. c
6. a
7. c
8. d
9. d
10. c

- 11. a
- 12. c
- 13. d
- 14. c
- 15. d
- 16. b
- 17. a
- 18. c
- 19. b
- 20. c

1. The most suitable cutting process to use on ferrous metals such as straight carbon steel is ____.

- a. carbon arc cutting
- b. oxyfuel cutting
- c. powder cutting
- d. plasma arc cutting

2. The oxidation that occurs during an oxyfuel cutting operation is similar to a greatly sped-up ____.

- a. tempering process
- b. annealing process
- c. rusting process
- d. crystallizing process

3. For long-term cutting of materials containing cadmium or mercury, always wear an approved ____.

- a. supplied air respirator
- b. metal-fume filter
- c. HEPA-rated filter
- d. standard respirator

4. When performing oxyfuel cutting, it is acceptable to wear ____.

- a. a cap and safety glasses
- b. a face shield over safety glasses
- c. a hard hat and sunglasses
- d. a vented mesh cotton hood

5. Two types of gases that tend to concentrate in and along low areas are ____.

- a. acetylene and propylene
- b. methane and butane
- c. propylene and propane
- d. butane and propane

6. Oxygen cylinders must be tested ____.

- a. annually
- b. every three years
- c. every five years
- d. every ten years

7. Combining pure oxygen with a burning material causes a fire to _____.
a. burn rapidly and violently
b. pop loudly and extinguish
c. die down and then flare up
d. burn cooler and more slowly
8. In the top and bottom of an acetylene cylinder are safety plugs with a melting point of _____.
a. 212°F (100°C)
b. 260°F (126.7°C)
c. 300°F (148.9°C)
d. 330°F (165.6°C)
9. Three fuel gases other than acetylene used for cutting include _____.
a. argon, oxygen, and helium
b. methane, butane, and oxygen
c. natural gas, propylene, and propane
d. benzene, halon, and fluorine
10. As a reminder that the regulator on a cylinder has left-handed threads, a V-notch is sometimes cut around the _____.
a. regulator
b. cylinder
c. threads
d. nut
11. The hoses used to carry oxygen from the cylinder to the torch are usually _____.
a. red
b. blue
c. green
d. orange
12. The special cutting tip for cutting off bolt heads and nuts is called a _____.
a. gouging tip
b. flue cutting tip
c. rivet cutting tip
d. piercing tip
13. The selection of a cutting torch tip depends on the thickness of the base metal being cut and the _____.
a. size of the fuel hoses
b. size of the torch
c. type of fuel gas being used
d. size of the oxygen cylinder

14. Tip cleaners are _____.

- a. strong detergents used to dissolve carbon buildup in torch tips
- b. small round files used to remove impurities from a torch tip
- c. solvent tanks and pumps used to force solvent through the tip openings
- d. high-velocity nozzles used to blow debris from a torch tip

15. A track burner is a device used to _____.

- a. cut railroad tracks
- b. weld pipe
- c. cut or bevel in a straight line
- d. cut holes in plate

16. How should gas cylinders be transported to a workstation?

- a. Carried by hand with one worker on each end of the cylinder
- b. Lying flat in a cylinder cart or truck
- c. Rolled carefully by a qualified worker from the storage area
- d. In an upright position on a hand truck or bottle cart

17. What devices are often attached to the regulators, the torch, or both?

- a. Flashback arrestors
- b. Needle valves
- c. Cutting orifices
- d. Leak detectors

18. An oxyfuel cutting torch should be checked for leaks _____.

- a. each time it is used
- b. once a week
- c. every month
- d. after 1,000 hours

19. A cutting flame that has an excess of oxygen is called a(n) _____.

- a. cold flame
- b. neutral flame
- c. carburizing flame
- d. oxidizing flame

20. A carburizing flame has a white feather created by _____.

- a. too much oxygen
- b. too little carbon
- c. too much fuel
- d. too much vacuum

21. What can occur when a torch tip or nozzle touches the work surface or when a bit of hot dross briefly interrupts the cutting flame?

- a. Carburization
- b. Backfire
- c. Oxidation
- d. Flashpoint

22. When a cutting job is completed and the oxyfuel equipment is no longer needed, the first step in shutting down the oxyfuel cutting equipment is to ____.

- a. close the fuel gas cylinder valve
- b. back out the fuel gas and oxygen regulator adjusting screws
- c. open the fuel gas torch valve
- d. open the oxygen torch valve

23. When an empty cylinder has been removed from the workstation and stored, it must be marked MT (or the acceptable site notation for indicating an empty cylinder) ____.

- a. near its top
- b. on the middle of its side
- c. on its bottom
- d. on its lower third

24. Insufficient preheat during an oxyfuel cutting operation is likely to result in ____.

- a. the top surface melting over the cut
- b. bad gouging at the bottom of the cut
- c. a pronounced break in the drag line
- d. a wavy and irregular kerf

25. To minimize distortion when cutting thin steel, ____.

- a. avoid preheating the metal before starting the cut
- b. keep the cutting tip perpendicular to the metal's surface
- c. move as quickly as possible without losing the cut
- d. preheat the metal until it is near its melting point

26. When cutting thin steel with oxyfuel cutting equipment, point the torch tip in the direction the torch is traveling at a ____.

- a. 10- to 12-degree angle
- b. 15- to 20-degree angle
- c. 21- to 25-degree angle
- d. 30- to 35-degree angle

27. What becomes less of a problem as the thickness of the steel being cut increases?

- a. Distortion
- b. Blowback
- c. Backfire
- d. Piercing

28. The process of cutting a groove into a surface is known as _____.

- a. gouging
- b. washing
- c. brushing
- d. short-cutting

29. Gouging operations use a special tip that produces a low-velocity stream of oxygen that _____.

- a. blows downward
- b. pierces the workpiece
- c. distorts the flame
- d. curves upward

30. Portable oxyfuel track burners can be used for _____.

- a. stationary cutting, but not bevel cutting
- b. straight-line cutting and bevel cutting
- c. movable cutting, but not straight-line cutting
- d. both drag cutting and kerfless cutting

ANSWERS

- 1. b
- 2. c
- 3. a
- 4. b
- 5. c
- 6. d
- 7. a
- 8. a
- 9. c
- 10. d
- 11. c
- 12. c
- 13. c
- 14. b
- 15. c
- 16. d
- 17. a
- 18. a
- 19. d
- 20. c
- 21. b
- 22. a
- 23. a
- 24. b
- 25. c
- 26. b
- 27. a
- 28. a
- 29. d
- 30. b