Team 246
Shop Training Written Exam

Name ___________________________
Date ___________

There is no specific “Passing Grade” for the exam. However, all wrong answers will result in discussions with mentors so you are encouraged to do your best!

1. Name the number one thing that must be worn at all times when working with tools.

___________________________________________________

2. Name the following Shop Machines

![Shop Machines Images]
3. Which of the following are not allowed when using shop machines? (check all that apply)
   _ Loose Hair
   _ Necklaces
   _ Watches
   _ Earrings
   _ Baseball Caps
   _ Gloves
   _ Ear Protection
   _ Sandals
   _ Steel-toed boots
   _ Loose clothing (i.e. sweaters with dangling pullstrings)
   _ Coveralls
   _ Headphones (in or dangling)
   _ Loud music in lab
   _ Work Shirt with sleeves

4. What should you do in the event of a minor injury? (check all that apply)
   _ Wash it
   _ Bandage it
   _ Notify a mentor
   _ Reset the injury counter

5. What should you do in the event of a major injury? (check all that apply)
   _ Yell and scream
   _ Notify a mentor
   _ Call BU emergency services

6. What should you do in the event of a chemical spill?
   ____________________________________________________
   ____________________________________________________
   ____________________________________________________
   ____________________________________________________

7. If a machine is behaving abnormally, what should you do?
   ____________________________________________________
   ____________________________________________________
   ____________________________________________________

8. Describe the process of changing the speed on the drill press.
   ____________________________________________________
   ____________________________________________________
   ____________________________________________________
   ____________________________________________________
9. If captains are present but there are no mentors, can you use shop machines?
   _ Yes
   _ No

10. If captains are present but there are no mentors, can you use handheld power tools?
    _ Yes
    _ No

11. If you are the only person in the lab, are you allowed to use handheld power tools?
    _ Yes
    _ No

12. If the bit is not spinning straight in the drill chuck, what is likely wrong?
    __________________________________________

13. When is it okay to work on the robot?
    _ Off, battery unplugged
    _ Off, battery plugged in
    _ On, robot disabled
    _ On, robot enabled

14. Why should you clamp your work?
    __________________________________________

15. Name 2 important things to remember when operating the horizontal bandsaw.
    ________________________________
    ________________________________

16. Which side of the disk sander should be used (it rotates clockwise)? Why?
    __________________________________________

17. Who is allowed to use the chopsaw?
    _ Mentors
    _ Captains
    _ Anyone, with mentor supervision

18. Which power tools have special supervision requirements? (check all that apply)
    _ chopsaw
    _ milling machine
    _ soldering iron
    _ lathe
    _ mini-milling machine
19. If you’re not sure if a circuit is live, what should you do before touching it?
___________________________________________________

20. Name a time when you should use work gloves.
___________________________________________________

21. What should the height of the blade guard on the vertical bandsaw be set to prior to any cut?
___________________________________________________

22. When cutting a small piece on the vertical bandsaw, what can you do to avoid putting your fingers near the blade?
___________________________________________________

23. If a piece of hair or jewelry that you forgot to secure gets caught in the machine, what should your first instinct be?
   _ Try to pull it out
   _ Turn the machine off

24. If you see someone else doing something unsafe, what should you do?
___________________________________________________

25. Are glasses a valid substitute for safety glasses?
   _ Yes
   _ No
   _ Sometimes

26. Where is food allowed in the lab? (check all that apply)
   _ By the machines
   _ On work surfaces
   _ On the carpeted area
   _ In the computer lab

27. Which of the following can also function as a hammer?
   _ Screwdriver
   _ Vice
   _ Wrench
   _ None of the above

28. What should be done at the end of every day?
___________________________________________________
29. Which part of the drill bit should be gripped by the chuck? (circle)

30. How does one carry a battery safely?

31. Which of the following can present an electrical hazard?
   - A wall outlet
   - A robot battery
   - Motor controller outputs
   - An AA battery

32. When you are done using a cordless drill, which of the following should you do?
   - Let the chuck cool off before touching it
   - Put away the bit
   - Set the direction to neutral
   - Put the battery on a charger
   - Return the drill to its shelf

That's the end of the exam! Please read over the following additional guidelines, and sign the bottom of this page and return to the team mentors.

**General Safety Rules & Good Practice**
- Never distract anyone operating machinery
- If your work requires both your hands, have a spotter available to press the stop button
- Unplug machines prior to performing any maintenance
- If you see something unsafe, do something! Safety is everyone's responsibility
- Never cut towards yourself or your fingers
- A clean, well-organized work area is a safer work area
- Never work with power tools alone
- File down sharp edges immediately after cutting
- Don't prop up materials where they are likely to fall down (for you physics students, “release potential energy”)
- If you ever unsure if something is safe, IT PROBABLY ISN'T!

Signature __________________________________________  Date ____________

Mentor (Print) _______________________________________

Mentor (Sign) _________________________________________  Date ____________