

General Safety in Labs without Hazardous Materials, EHS 50 Exam (Page 1 of 5)

Initials: _____

Important note and instructions: Circle the correct answer or answers for each question. One or more answers may be correct. Each question is worth the number of points equal to the number of choices in that question. Initial as requested.

1. Authorized Occupants:
 - A. May perform any procedures in a laboratory that is classified as having only Level I Hazards.
 - B. May perform any procedures in laboratories that are classified Level I or II.
 - C. May not perform any laboratory procedures unless they also have training as an Authorized User for those procedures.
 - D. May not be in the laboratory unless an Authorized User is present.
 - E. Cannot also be Authorized Users.

2. The safety philosophy that should be adopted by all individuals in the laboratory states:
 - A. That all exposures to hazardous materials/radiations shall be kept as low as possible.
 - B. That any procedure that does not exceed accepted or regulatory limits is acceptable.
 - C. That exposures to hazardous radiations should be kept as far below accepted or regulatory limits as is reasonably achievable.
 - D. That any procedure that doesn't expose any individuals to more than 10% of regulatory limits is acceptable.
 - E. That the benefit that may derived from the performance of procedures may not be considered in deciding that that they are safe to perform.

3. In order to leave an unattended process involving hazardous radiations,
 - A. Only the authorized user needs to review the process and approve it.
 - B. Requires a posting that identifies the procedure and provides a contact's phone number in case of emergencies.
 - C. Requires extra care in reviewing the status of safety precautions and the condition of the equipment being used.
 - D. Requires planning for the proper placement, proper shielding, and security for the experimental apparatus.

4. When a general emergency occurs, you (user) should not:
- A. Call 911 (at the earliest safe time) with clear information concerning the emergency because that responsibility rests with the laboratory supervisor.
 - B. Take any low risk (requiring very little time) actions, which would decrease the magnitude of the emergency.
 - C. Notify others of emergency, evacuate the lab, if needed, closing the doors after verification that no one is left in the lab.
 - D. Escort personnel to the nearest elevator and take it to the ground floor so that everyone may quickly leave the building.
5. If someone is seriously injured, you should:
- A. Immediately move the person to a comfortable location.
 - B. Keep the person as calm and still as possible.
 - C. Even if you have no first aid training, administer first aid if it appears to be needed.
 - D. Call 911 for medical assistance as soon as possible.
6. The safe use of a compressed gas cylinder:
- A. Requires that it be secured to a secure and stable object by means of an approved strap or chain.
 - B. Permits it to be rolled on its edge to a new location as long as the cylinder cap is on the cylinder.
 - C. Recommends that a little bit of grease be placed on the high-pressure side of the regulator of a cylinder of oxygen because that reduces the probability of an explosion.
 - D. Recommends that the reduction valve on the regulator should be bled even though the main cylinder valve is securely closed.

7. Authorized occupants and authorized users:
 - A. Shall understand and comply with the relevant and applicable safety provisions specified by warning signs, labels, and/or postings.
 - B. Shall know the location and use of safety equipment in the lab.
 - C. Do not need to participate in emergency drills if they have done so in the previous six months.
 - D. Shall be alert to unsafe conditions by performing frequent informal safety inspections and shall pursue timely correction of such conditions.
 - E. May not be less than 18 years of age.

8. The following behaviors are not permitted in the laboratory:
 - A. Shouting and/or other suddenly distracting behaviors.
 - B. Practical jokes.
 - C. Studying at a desk.
 - D. Throwing articles to another individual to minimize pedestrian movement.
 - E. Recording data in a notebook located on lab bench.

9. Required safety procedures/practices in addition to those specified in the Laboratory Safety Manual are frequently found on or in:
 - A. Labels attached to equipment or containers.
 - B. Laboratory Entrance Postings (LEP's).
 - C. Lab coat labels.
 - D. Signs posted on or part of equipment or on laboratory bulletin boards.
 - E. Lab notebooks obtained from Central Supply.

10. When glass equipment/tubing is used,
- A. Periodic inspection for flaws, cracks, and stress need to be performed.
 - B. Fire polishing after cutting glass tubing to the desired length is needed only as an aesthetic procedure and is generally not required for safety.
 - C. Hands should be protected with heavy padding (gloves or towels) when inserting tubing through a stopper.
 - D. Lubrication is never used.
 - E. Gentle heating is not to be used in removing “frozen” stoppers.

Note: Question 11 shall be answered if non-exempt lasers will be in the lab and question 12 must be answered if equipment generating ionizing radiation will be present in the lab. Omit 11 if non-exempt laser will not be present. Omit 12, if no equipment generating ionizing radiation will be present in the lab.

11. Authorized Users and Authorized Occupants shall be acquainted with:
- A. ANSI Z 136, location and availability of the Kansas University Laser Safety Plan (Part I and V of the LSM), exposure limits, and biological effects of laser beam exposures.
 - B. ANSI Z 324, location and availability of the Federal Laser Safety Plan, types of lasers, and effects of internal exposure to laser beams.
 - C. ANSI Z 132
 - D. ANSI Z 350 and location and availability of the Kansas University Laser Safety Plan (Part I and IV of the LSM), exposure limits, and biological effects of laser beams.
 - E. ANSI Z 136, location and availability of the Kansas University Laser Safety Plan (Part I and IV of the LSM, exposure limits, and biological effects of laser beams.

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12. Authorized Users and Authorized Occupants shall be acquainted with:

A. ANSI Z 136, contents of "Radiation Safety in the Use of Radioactive Materials" by Benjamin Friesen, location and availability of the Kansas University Radiation Safety Plan (Part I and V of the LSM).

B. Contents of "Radiation Safety in the Use of Radioactive Materials" by Benjamin Friesen, location and availability of the Kansas University Radiation Safety Plan (Part I and IV of the LSM), federal/state radiation exposure limits, biological effects of low levels of exposure to ionizing radiation, and applicable Safety Data Sheets.

C. 10 CFR 35 and the location and availability of the Kansas University Radiation Safety Plan (Part I and V of the LSM).

D. 10 CFR 72 that covers biological effects, exposure limits, and all safety regulations adopted by the Kansas University Radiation Safety Plan.

E. 10 CFR 72 and ANSI Z 156.

With the submission of this exam I affirm that I completed the exam without help from any other individual:

Signed: _____ ID: _____
employee/student

The initial score for this exam was _____ points out of a possible 47 points plus _____ points (for the latter add 5 if 11 or 12 is applicable and 10 if both are applicable.)

Signed: _____ ID: _____
supervisor/instructor