

Name: _____

Score: _____ / _____

Laser Safety Exam

Part 1: Basic

25

Which of the following is not a property of laser radiation?

- A. Monochromaticity
- B. Coherence
- C. Directionality
- D. Low Radiance

Answer Point Value: 1.0 points

Answer Key: D

7

(1 points) Any kind of laser warning signs can be used at the entrances to a laser facility.

- True
- False

Answer Point Value: 0.0 points

Answer Key: False

21

All accidents involving laser exposures shall be reported to the Laser Safety Officer.

- True
- False

Answer Point Value: 1.0 points

Answer Key: True

22

The decrease in the radiant flux as it passes through an absorbing or scattering medium is called:

- A. attenuation
- B. beam eliminator
- C. energy eliminator
- D. denaturation
- E. All of the above

Answer Point Value: 1.0 points

Answer Key: A

10

Lasers do not need to be secured against unauthorized use because laboratories, in general, provide sufficient security.

- True
- False

Answer Point Value: 1.0 points

Answer Key: False

27

What is the last task you should perform after you have finished servicing the laser?

- A. Put away any tools.
- B. Inform the LSO.
- C. Reactivate all the safety features.
- D. Look directly into the beam.

Answer Point Value: 1.0 points

Answer Key: C

18

(1 points. Authorized Users are responsible for enforcing access restrictions during the use of a laser.

- True
- False

Answer Point Value: 0.0 points

Answer Key: True

1 Because beam intensities used at UCSC are so low, beam stops, barriers and collimators are never required True*

Answer Point Value: 1.0 points

Model Short Answer: -----

30 . Choose the two organs most susceptible to laser damage:

- A. extremities and lungs
- B. eyes and skin
- C. hair and eyes
- D. hands and feet

Answer Point Value: 1.0 points

Answer Key: B

3 (1 points. Pulsed lasers are generally not as hazardous as continuous wave beams because there is time for recovery between pulses.

- True
- False

Answer Point Value: 0.0 points

Answer Key: False

12 Which of the following laser wavelengths can cause retinal burns?

- A. Far infrared and ultraviolet.
- B. Visible and near infrared.
- C. Ultraviolet only.
- D. Far infrared only.

Answer Point Value: 1.0 points

Answer Key: B

29

(1 points. Authorized Users only need to verify the status of warning lights, interlocks and/or alarms once a month.

- True
- False

Answer Point Value: 0.0 points

Answer Key: False

14

Which one of the following is a device intended to prevent access to hazardous laser radiation when an enclosure is opened?

- A. Protective housing
- B. Warning system
- C. Interlock
- D. Beam stop

Answer Point Value: 1.0 points

Answer Key: C

8

The Authorized User, before energizing the beam, is responsible for verifying that individuals in the room are authorized to be present during operation of the beam and that all safety precautions are being met.

- True
- False

Answer Point Value: 1.0 points

Answer Key: True

- 4 1 points. Authorized Users and Authorized Occupants in laboratories with lasers shall be acquainted with:
- A. ANSI Standard Z136.1
 - B. OSHA Standard 1236 Part II
 - C. ANSI Standard Z142.3
 - D. 10 CFR 30

Answer Point Value: 0.0 points

Answer Key: A

- 6 The potential location of injury in the eye is directly related to the wavelength of the laser radiation.
- True
 - False

Answer Point Value: 1.0 points

Answer Key: True

- 13 54 All laser protective eyewear must be marked with the absorption wavelength and the optical density (OD. at that wavelength. _____

Answer Point Value: 1.0 points

Answer Key: Treu

- 28 Direct exposure to the optic disc from visible light from a Class 4 laser will cause:
- A. loss of night vision
 - B. no effect
 - C. loss of color vision
 - D. severe damage (blindness, burns.
 - E. temporary flash-blindness

Answer Point Value: 1.0 points

Answer Key: E

16

Other hazards associated with the use of high-powered lasers include:

- A. high voltage
- B. cryogenics
- C. ionizing radiation
- D. toxic laser dyes
- E. fire hazard
- F. laser generated air contaminants
- G. all of the above

Answer Point Value: 1.0 points

Answer Key: G

24

The effects of laser damage to the skin are dependent on:

- A. power density
- B. absorption
- C. time duration of exposure
- D. circulation and conduction
- E. all of the above

Answer Point Value: 1.0 points

Answer Key: E

20

Which is one of the most important pieces of information included in the Standard Operating Procedure for a laser?

- A. Identification of potential hazards.
- B. The name of the LSO.
- C. The laser manufacturer.
- D. Medical requirements.

Answer Point Value: 1.0 points

Answer Key: A

9 All doors to rooms that contain a class 3a, 3b, or 4 lasers are to be posted with a sign marked "WARNING".

- True
- False

Answer Point Value: 1.0 points

Answer Key: False

11 At UCSC special safety glasses designed for the type of laser being used are never needed.

- True
- False

Answer Point Value: 1.0 points

Answer Key: False

19 What is the best way to control airborne contaminants?

- A. Set up a temporary controlled area.
- B. Use an exhaust ventilation system
- C. Use flame retardant curtains.
- D. Do not use target materials.

Answer Point Value: 1.0 points

Answer Key: B

26 Which type of eye damage is likely to occur if the lens is exposed to ultraviolet laser radiation?

- A. Cataract
- B. Retinal Burn
- C. Stigmatism
- D. Total Blindness

Answer Point Value: 1.0 points

Answer Key: A

17

Which classes of lasers require the word "DANGER" on their warning labels?

- A. Classes I,II, and IIa.
- B. Classes II and IIa.
- C. Classes IIIb, and IV and some IIIa.
- D. Classes IIIb and IV only.

Answer Point Value: 1.0 points

Answer Key: D

15

Lasers shall not be transferred or relocated unless prior approval has been obtained from the Laser Safety Officer.

- True
- False

Answer Point Value: 1.0 points

Answer Key: True

2

Closure of the eyelid or movement of the individual's head to avoid an exposure to a bright light is called:

- A. emission avoidance response
- B. avoidance
- C. quick thinking
- D. aversion response
- E. none of the above

Answer Point Value: 1.0 points

Answer Key: D

23

Hazardous exposure to diffusely reflected radiation is most likely to occur from which class of laser?

- A. Class II.
- B. Class IIIa
- C. Class IIIb
- D. Class IV

Answer Point Value: 1.0 points

Answer Key: D

5

Which of the following statements are true:

- A. Laser light can damage your eyes, even if you are a Ph.D.
- B. Laser light from a Class IV laser can burn you, even if you have 20 years of laser experience.
- C. All laser injury accidents are preventable.
- D. Intrabeam viewing is permissible if you wear the proper laser eye protection
- E. All of the above

Answer Point Value: 1.0 points

Answer Key: E