

LASER safety Quiz

1) Damage to the retina occurs in which optical range?

- A: X-ray (<100 nm)
- B: Mid UV (180 - 315 nm)
- C: Near UV (315 - 400 nm)
- D: Occular region (400 - 1400 nm)

2) Which two parameters are most important when choosing laser goggles.

- A: Colour and size
- B: Frame material and strap
- C: Wavelength and OD
- D: Price and extras

3) Which of the statements are true about Class 2 lasers?

- A) They are only at visible wavelengths
- B) The blink reflex will protect the naked eye.
- C) They can damage the eye if viewed with an optical aid.
- D) All of the above

4) Which statements are true about Class 3B lasers?

- A) Protective eye wear is not necessary for direct viewing.
- B) Protective eye wear is not necessary for viewing diffuse reflections.
- C) A key switch and safety interlock are not required.
- D) Pulsed lasers in the visible region (400 - 700 nm) are limited to 30mJ.

5) The safest way to view a laser beam is:

- A) Directly in the beam ☺.
- B) Directly in a specular reflection.
- C) Either of the above.
- D) None of the above.

6) Which is an example of an engineering laser safety control measure?

- A) "Laser On" light outside lab door.
- B) Key switch interlock circuit to enter lab door
- C) Overshoes to keep laser clean.

D) Safety notice on lab door.

7) The maximum permissible exposure is

- A) Not important for visible wavelengths
- B) The maximum level of radiation which human tissue may be exposed to without harmful effect.
- C) The same for all parts of the body.
- D) Increased when a viewing aid is used.

8) Most laser accidents could be avoided by:

- A) Using a class 1 laser for alignment
- B) Following the alignment procedure
- C) Wearing the correct goggles
- D) All of the above

9) Administrative control measures include which of the following

- A) Automated shutters and interlocks
- B) Standard operating procedures and training
- C) Warning lights, labels, signs etc.
- D) Provision of goggles

10) Safe working practices include which of the following

- A) Confine beam within tubes.
- B) Minimize power for alignment and use screens/fluorescent targets for alignment.
- C) Use direct viewing for fine alignment.
- D) Keep bench clear of unnecessary reflective items, tools and remove reflective jewelry.

11) Lasers can present which of the following hazards:

- A) Optical
- B) Electrical
- C) Cryogenic
- D) Fire and explosion

12) Laser Controlled areas should be:

- A) Operated by an authorised operator
- B) Allow free access in and out of the lab
- C) Have a desk for operators sit and work
- D) Be sealed to contain the laser beams

ANSWERS

- 1) D. (Other wavelengths are absorbed before the retina)
- 2) C.
- 3) D.
- 4) B and D.
- 5) D. (It is safest not to view the laser beam - use a camera....)
- 6) A
- 7) B
- 8) D
- 9) B and C
- 10) A,B and D.
- 11) All
- 12) A and D. B: Doors should allow exit and only authorised entry with interlock control. C: Only laser work should be done in the lab.