LLE Laser Safety Quiz

Laboratory for Laser Energetics, University of Rochester

NAME (Printed) _____ **DATE** _____

LLE Group/Supervisor _____

SIGNATURE _____ **(Return to E. Kowaluk)**

Check off "☑" or put an "☒" in the appropriate column (T=True, F=False)

	T	F	**UNDERSTANDING LASERS & LASER LIGHT**
1	☐	☐	The laser beam's wavelength is determined by the lasing media
2	☐	☐	Lasers consist of an active medium, an excitation mechanism, & an optical resonator
3	☐	☐	Lasers operate in the visible, ultraviolet, infrared, and audio regions
4	☐	☐	Different colors in the visible indicate different wavelengths
5	☐	☐	Light at the output of a laser is coherent, monochromatic, and non-directional
6	☐	☐	Ultraviolet and infrared wavelengths are part of the visible spectrum

	T	F	**UNDERSTANDING HUMAN TISSUE**
7	☐	☐	High power lasers can cause permanent eye damage and skin burns
8	☐	☐	Your eye can magnify light intensity by 100,000 times
9	☐	☐	When light enters your eye, the first tissue affected is the lens
10	☐	☐	Because the skin does not magnify like the eye, lasers cannot burn the skin

	T	F	**LASER HAZARDS**
11	☐	☐	Pulsed lasers are always less hazardous than continuous lasers
12	☐	☐	Class 4 lasers, like cryogenics, can cause skin burns
13	☐	☐	The electrical hazards associated with a laser are seldom life threatening
14	☐	☐	Collateral laser hazards come from the primary beam
15	☐	☐	Capacitors are still a danger even after the laser power is turned off

	T	F	**LASER CLASSES**
16	☐	☐	OMEGA is a Class 1 laser
17	☐	☐	Class 2 laser signs use the word DANGER
18	☐	☐	500 mW is the upper limit for Class 3B CW lasers
19	☐	☐	A safe way to view a Class 4 laser beam without eyewear is by diffusely reflecting the beam
20	☐	☐	Class 4 laser beams are hazardous to view directly under most conditions
21	☐	☐	Class 2 lasers don't emit more than 1 milliwatt
22	☐	☐	Class 3R (formerly Class IIIa) laser pointers can be associated with flash blindness
23	☐	☐	Classes 3B & 4 use the signal word CAUTION
24	☐	☐	High-power laser pointers are limited to the laser Class 3B
25	☐	☐	Class 4 lasers are only hazardous when pulsed

	T	F	**PREVENTING LASER ACCIDENTS**
26	☐	☐	Protective eyewear allows you to view direct laser radiation safely
27	☐	☐	Optical systems should not be designed with laser beams at eye level.
28	☐	☐	Engineering controls are the most effective types of controls
29	☐	☐	Administrative controls include training, standard operating procedures (SOP), and warning signs
30	☐	☐	The most important aspect of operating lasers safely is to understand the equipment and its associated hazards and to apply safe work practices
31	☐	☐	Personal protective equipment provides a second layer of defense to protect against unforeseen events, operator error, failure of engineering or administrative controls, and equipment failures.
32	☐	☐	Green color laser-safety eyewear will protect you from "green" beams
33	☐	☐	Any laser-safety eyewear can protect you from all laser beams
34	☐	☐	Your blink response will protect you from a Class 4 laser