Electromagnetic Spectrum Worksheet

Scoring guide · one credit per question · review written work against each rubric

Electromagnetic Spectrum

Question 1

Choice (4)

Ultraviolet appears on the shorter-wavelength side of visible light.

Question 2

The order is infrared, visible, ultraviolet. Infrared borders visible on the longer-wavelength side and ultraviolet borders it on the shorter-wavelength side.

Question 3

Divide 1.20×10^{-6} m by 10^{-9} m/nm to obtain 1.20×10^{3} nm.

Question 4

Choice (1)

All electromagnetic waves travel at the same speed in a vacuum.

Sources for Optical Sensors

Question 5

Choice (3)

R peaks at 940 nm, between 800 and 1,000 nm.

Question 6

P peaks at 290 nm, or 2.90×10^{-7} m, which is in the ultraviolet region on the 2025 spectrum.

Question 7

Choice (2)

The 530 nm wavelength of Q is in the visible region.

Question 8

No. The 270–310 nm range is entirely below the 800–1,000 nm range. One peak wavelength cannot be in two ranges with no overlap.