Checking a Fluorescent Ink Display

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

Checking a Fluorescent Ink Display

Question 1

Choice (3)

The lamp supplies 365 nm light only, so the 470 nm reading specific to the ink sample is evidence of emission at a different wavelength.

Question 2

A 470 nm photon has the longer wavelength and therefore the lower frequency. Photon energy is proportional to frequency, so it has less energy.

Question 3

The ink sample should still give its 470 nm reading. The blank paper’s only recorded wavelength is 365 nm, which the filter blocks.

Question 4

The 470 nm signal should disappear under the supplied model. The filter now blocks the lamp’s 365 nm light before it reaches the ink, so it removes the excitation that led to emission.