

Quiz 5

Name:

Date: 26.3.2024

Question 1

Name two thermotropic liquid crystal phases.

Nematic and cholesteric

Question 2

Explain what birefringence is and which material property leads to it. (**max two sentences!**)

Birefringence is optical phenomenon, where refractive index of a medium depends on the polarization and the direction of propagation of light.
It is caused by material anisotropy.

Question 3

Consider an isotropic transparent material sandwiched between two polarizers having an angle α between their respective polarization directions. Incident unpolarized light with intensity I_0 enters the stack through the first polarizer and is detected after the second polarizer. What is the intensity at the exit of the stack for

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|----|---------------------|----------------|
| A) | $\alpha = 90^\circ$ | A) $I = 0$ |
| B) | $\alpha = 45^\circ$ | B) $I = I_0/2$ |