

Department of Physics

EPL-334 LASERS

Minor-2

Answer all questions.

1. Explain with the help of a diagram, why a designated power supply is required with a He-Ne laser. [5]
2. Describe the principle behind the Q-switching method for production of short-duration pulses in a laser with the help of a diagram. [5]
3. Can a gas laser be effectively mode locked? Give reasons[2]
4. A mode locked glass operating at a wavelength of 1.05micrometre with a resonator length of 15cm; refractive index = 1.5 and a line width of 7THz. Calculate (a) pulse duration (b) the ratio of peak intensity to the average intensity. [4]
5. Mention two applications of the He-Ne laser [1]
6. In what ways does the energy levels in the He atom contribute in the lasing of the He-Ne laser? [3]

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